

COUNTY OF



ALLEGHENY

RICH FITZGERALD
COUNTY EXECUTIVE

August 26, 2014

Dr. David Macpherson
Veterans Affairs Medical Center
Oakland Facility
University Drive C
Pittsburgh, PA 15240

RE: Synthetic Minor Source Operating Permit No.0276

Dear Dr. Macpherson:

Enclosed, please find Synthetic Minor Source Operating Permit No. 0276 for the **Veterans Affairs Medical Center, Oakland Facility** located at University Drive C, Pittsburgh, PA. The Department received public comments during the public comment period. The Department's response to those comments is enclosed.

In accordance with Article XXI, §2102.03.h., any person aggrieved by the issuance of this permit or any person who participated in the public comment process for this permit, shall have the right to file an appeal pursuant to the provisions of Article XI, Rules and Regulations of the Allegheny County Health Department. **You have ten (10) days from the date this permit is issued to file an appeal.**

This Synthetic Minor Source Operating Permit was issued on August 26, 2014 and **will expire on August 25, 2019**. You must submit, to the Department, an application for renewal at least six (6) months prior to the date of permit expiration, but no earlier than 18 months prior to the date of permit expiration. (§2103.13.b.1 of Article XXI)

The Department encourages you to read the enclosed permit and contact us if you have any questions. We would be happy to arrange a meeting with you to discuss the permit. We wish to thank you for your cooperation and patience in this matter. If you have any questions concerning this permit, or if I can be of further assistance, please feel free to give me a call at (412) 578-8187.

Yours very truly,

Michael Dorman
Air Quality Engineer

Enclosures

**ALLEGHENY COUNTY HEALTH DEPARTMENT
AIR QUALITY PROGRAM**

August 26, 2014

SUBJECT: Veterans Affairs Medical Center

Oakland Facility
University Drive C
Pittsburgh, PA 15240
Allegheny County

Synthetic Minor Source Operating Permit No. 0276

TO: Sandra L. Etzel
Chief Engineer

FROM: Michael Dorman
Air Quality Engineer

STATEMENT OF AUTHORITY

FACILITY DESCRIPTION:

The Veterans Affairs Pittsburgh Healthcare System consists of three Divisions operating under one management. The University Drive Division is located in the Oakland District of Pittsburgh adjacent to the University of Pittsburgh. University Drive serves as the acute care facility and has approximately 146 operating beds distributed among Medicine, Surgery, Neurology, and Critical Care. A large Primary Care outpatient clinic is also located here. The source consists of three (3) boilers, eight (8) emergency generators, one (1) fire pump, two (2) ethylene oxide sterilizers, three (3) cooling towers, five (5) diesel fuel storage tanks and three (3) No.2 fuel oil storage tanks. The boilers are used to provide comfort heating and hot water for the building. These boilers are natural gas fired, with No. 2 fuel oil used as an emergency back-up fuel, vent through one combined stack. The emergency generators are designed to power hospital equipment in the event that utility power is interrupted.

The facility is a synthetic minor for nitrogen oxides (NO_x) and a minor source of particulate matter (PM), particulate matter < 10 microns in diameter (PM-10), particulate matter < 2.5 microns in diameter (PM-2.5), sulfur dioxide (SO₂), carbon monoxide (CO), volatile organic compounds (VOCs) and hazardous air pollutants (HAPs).

PERMIT APPLICATION COMPONENTS:

1. Synthetic Minor Operating Permit application No. 0276, received July 23, 2013.
2. Synthetic Minor Installation Permit application No. 0276-I003, issued September 30, 2013.
3. Synthetic Minor Installation Permit application No. 0276-I002, issued October 28, 2013.
4. E-mail received February 27, 2014.

EMISSION SOURCES:

TABLE II-1: Emission Unit Identification

I.D.	SOURCE DESCRIPTION	CONTROL DEVICE(S)	MAXIMUM CAPACITY	FUEL/RAW MATERIAL	STAC K I.D.
B-001	Tampella Power Corp Boiler No. 1, Model No.: DS 30	None	31.93 MMBtu/Hr	Natural Gas	S002
B-002	Tampella Power Corp Boiler No. 2, Model No.: DS 30		31.93 MMBtu/Hr		
B-003	Tampella Power Corp Boiler No. 3, Model No.: DS 30		19.0 9MMBtu/Hr		
EG-007	Cummins, Model No. DCQA-5779489		600 KW (804 hp)	No. 2 Fuel Oil Ultra-low Sulfur	S010
EG-008	Caterpillar, Model C175-16 Emergency Generator	2850 kW (3263 hp)	S011		
EG-009	Caterpillar, Model 3512C Emergency Generator	1500 kW (2206 hp)	S012		
EG-010	Caterpillar, Model 3512C Emergency Generator	1500 kW (2206 hp)	S013		
EG-011	Caterpillar, Model 3512C Emergency Generator	1500 kW (2206 hp)	S014		
EG-012	Caterpillar, Model 3512C Emergency Generator	1500 kW (2206 hp)	S015		
EG-013	Cummins, Model QSX15-G9 Emergency Generator	None	563 kW (680 hp)		S016
EG-014	Cummins, Model QSK60-G6 NR2 Emergency Generator		2000 kW (2922 hp)		S017
CO-001	Ethylene Oxide Sterilizer: 3M/EO Model: 50	Catalytic Oxidizer	170 g EtO/cycle	Ethylene Oxide	S001
CO-002	Ethylene Oxide Sterilizer: 3M/EO Model: 50		170 g EtO/cycle		
FP-001	Clark Fire Protection Products Fire Pump - Model: JU4H-UFDW8	None	144 hp	Diesel Fuel Ultra-low Sulfur	S011
CT-001	3 - Cooling Water Towers		1,000 gal/min	NA	NA
D001	Fuel Tank		10,000	No. 2 Fuel Oil	
D002	Fuel Tank		10,000		
D003	Fuel Tank		10,000		
T-006	Fuel Tank		15,000 gal	Diesel Fuel Ultra-low Sulfur	
T-007	Fuel Tank		15,000 gal		
T-008	Fuel Tank		10,000 gal		
T-009	Fuel Tank		4,000 gal		
T-010	Fuel Tank		280 gal		

METHOD OF DEMONSTRATING COMPLIANCE:

Methods of demonstrating compliance with the emission standards of this permit include the following:

1. Recording boiler fuel consumption each day, maintaining fuel certifications from fuel suppliers, and providing written notice of fuel consumption and sulfur content to the Department semiannually;
2. Recording emergency generator fuel consumption, cold starts, operating hours, inspection and maintenance activities, maintaining fuel certifications from fuel suppliers, and providing written notice to the Department semiannually;
3. Recording the number of sterilizations and the amount of ethylene oxide used in each sterilization cycle; and,
4. Operating and maintaining the fuel storage tanks in accordance with the manufacturers' specification and good engineering practices.

Compliance with the short-term (lb/hr) limits must be maintained at all times, including startup and shutdown unless explicitly stated otherwise in the permit. Any emissions due to startup and/or shutdown are included in the facility's total annual emissions. See Operating Permit No. 0276 for the specific conditions for determining compliance with the applicable requirements.

EMISSION CALCULATIONS

See Appendix A

REGULATORY APPLICABILITY:

1. Article XXI Requirements for Issuance:

See Permit Application No. 0276, Section 5. The requirements of Article XXI, Parts B and C for the issuance of operating permits have been met for this facility. Article XXI, Part D, Part E & Part H will have the necessary sections addressed individually.

2. Testing Requirements:

Testing is required for emergency generators EG-008, EG-009, EG-010, EG-011 and EG-012 in accordance with permit requirements at least once every five (5) years. The Department reserves the right to require additional testing, if necessary, to assure compliance with the terms and conditions of this Synthetic Minor Source Operating Permit.

3. Applicable New Source Performance Standards (NSPS):

The installation is subject to 40 CFR Part 60 Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units) because the boilers were installed after June 9, 1989 and have maximum design heat input capacities greater than 10,000,000 MMBtu/hr but less than 100,000,000 MMBtu/hr..

This installation is subject to 40 CFR Part 60 Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines – CI-RICE) because these emergency generators are diesel fueled RICE..

4. Non-Applicable New Source Performance Standards (NSPS):

The installation is not subject to 40 CFR Part 60 Subpart JJJJ (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines – SI-RICE) because none of the emergency generators have

spark ignition engines.

5. **Applicable NESHAP and MACT Standards:**

The facility is subject to 40 CFR Part 63, Subpart WWWW (National Emissions Standards for Hospital Ethylene Oxide Sterilizers) because this facility is a hospital.

The facility is subject to 40 CFR Part 63, Subpart ZZZZ – *National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines*.

6. **Non-Applicable NESHAP and MACT Standards:**

The facility is not subject to 40 CFR Part 63, Subpart O – *Ethylene Oxide Standards for Sterilization Facilities* because this source is a hospital and is specifically exempted from this Subpart. See 40 CFR §63.360(e).

The facility is not subject to 40 CFR Part 63, Subpart Q – *National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers* because this source is not an industrial facility.

The facility is not subject to 40 CFR Part 63, Subpart DDDDD – *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters* because it is not a major source.

7. **Risk Management Plan; CAA Section 112(r):**

The facility is not required to have a risk management plan at this time because none of the regulated chemicals exceed the thresholds in the regulation.

8. **Greenhouse Gas Reporting (40 CFR Part 98):**

Greenhouse gases (GHGs) from this facility come from the combustion units. Based on the calculation methodology in 40 CFR Part 98, §98.33(a)(1), potential emissions of CO₂e are 29,734.05 tpy. This is less than the 100,000 tpy major source threshold and the 75,000 ton modification increase threshold. Therefore, the facility is not a major source of GHG emissions. However, the CO₂e emissions are greater than 25,000 tons per year and will be required to submit an annual emissions inventory.

9. **Compliance Assurance Monitoring (40 CFR Part 64):**

The Compliance Assurance Monitoring (CAM) rule found in 40 CFR 64 is not applicable because this facility is not a major source.

EMISSIONS SUMMARY:

Emissions Limitations Summary

Pollutant	Annual Emission Limit (tons/year)*
PM	4.95
PM ₁₀	4.95
PM _{2.5}	4.95
SO ₂	6.843
NO _x	85.437
CO	34.167
ETO	0.0021
CH ₂ O	0.086
VOCs	3.014
CO ₂	29,734.05

* A year is defined as any consecutive 12-month period.

RECOMMENDATION:

All applicable Federal, State, and County regulations have been addressed in the permit application, and the facility is not in violation of the provisions of Article XXI, §2102.04.k. The Synthetic Minor Source Operating Permit for the Veterans Affairs Medical Center – Oakland Facility should be approved with the emission limitations, terms and conditions in Permit No. 0276.

APPENDIX A

EMISSION CALCULATIONS

Boilers No. 1 and No. 2

Boiler No. 1 and No. 2 are fired with natural gas with the ability to use No. 2 fuel oil as a back-up. They are rated at 31.93 MMBtu/hr each. The Department presumes that the No. 2 fuel oil shall be used as an emergency back-up when natural gas is unavailable. Therefore, emissions calculations are based on the combination of using natural gas for 8,250 hours per year and No. 2 fuel oil for 500 hours per year. The emission factors for PM come from Article XXI. For natural gas, it is assumed that PM = PM10 = PM2.5. Emission factors from AP-42 are increased by 15% to compensate for their variability.

$$31,930,000 \text{ Btu/hr} \div 1050 \text{ Btu/cf} = 30,409.52 \text{ cf/hr}$$

$$30,409.52 \div 1,000,000 = 0.03 \text{ MMcf/hr}$$

$$31,930,000 \text{ Btu/hr} \div 138,500 \text{ Btu/gal} = 230.54 \text{ gal/hr}$$

$$230.54 \text{ gal/hr} \div 1,000 = 0.231 \times 10^3 \text{ gal/hr}$$

PM/PM10/PM2.5 (natural gas)

$$(0.008 \text{ lbs/MMbtu}) \times (31.93 \text{ MMBtu/hr}) = \mathbf{0.256 \text{ lbs/hr}}$$

$$0.256 \text{ lb/hr} \times 2 = \mathbf{0.51 \text{ lb/hr both}}$$

$$(0.51 \text{ lbs/hr} \times 8,260 \text{ hr/yr}) \div (2000 \text{ lbs/ton}) = \mathbf{2.11 \text{ tons/yr both}}$$

(No. 2 Fuel Oil)

$$(0.015 \text{ lbs/MMbtu}) \times (31.93 \text{ MMBtu/hr}) = \mathbf{0.48 \text{ lbs/hr}}$$

$$0.48 \text{ lb/hr} \times 2 = \mathbf{0.96 \text{ lb/hr both}}$$

$$(0.96 \text{ lbs/hr} \times 500 \text{ hr/yr}) \div (2000 \text{ lbs/ton}) = \mathbf{0.24 \text{ tons/yr both}}$$

SO₂ (natural gas)

$$(0.03 \text{ MMcf/hr}) \times (0.6 \text{ lbs/MMcf}) = \mathbf{0.018 \text{ lbs/hr}}$$

$$0.018 \text{ lb/hr} \times 2 = \mathbf{0.036 \text{ lb/hr}}$$

$$0.036 \text{ lb/hr} \times 1.15 = \mathbf{0.0414 \text{ lb/hr both}}$$

$$(0.0414 \text{ lbs/hr} \times 8,260 \text{ hr/yr}) \div 2,000 \text{ lbs/ton} = \mathbf{0.171 \text{ tpy both}}$$

(No. 2 Fuel Oil)

$$(142 \text{ lb}/10^3 \text{ gal} \times 0.5 \% \text{ S}) \times 0.231 \times 10^3 \text{ gal/hr} = 16.401 \text{ lb/hr}$$

$$16.401 \text{ lb/hr} \times 2 = \mathbf{32.802 \text{ lb/hr}}$$

$$32.802 \text{ lb/hr} \times 1.15 = \mathbf{37.72 \text{ lb/hr both}}$$

$$(0.113 \text{ lbs/hr} \times 500 \text{ hr/yr}) \div (2000 \text{ lbs/ton}) = \mathbf{9.43 \text{ tons/yr both}}$$

NO_x (natural gas)

$$(0.03 \text{ MMcf/hr}) \times (100 \text{ lbs/MMcf}) = 3.0 \text{ lbs/hr}$$

$$3.0 \text{ lb/hr} \times 2 = \mathbf{6.0 \text{ lb/hr}}$$

$$6.0 \text{ lb/hr} \times 1.15 = \mathbf{6.9 \text{ lb/hr both}}$$

$$(6.9 \text{ lbs/hr} \times 8,260 \text{ hr/yr}) \div 2,000 \text{ lbs/ton} = \mathbf{28.497 \text{ tpy both}}$$

(No. 2 Fuel Oil)

$$20 \text{ lb}/10^3 \text{ gal} \times 0.231 \times 10^3 \text{ gal/hr} = 4.62 \text{ lb/hr}$$

$$4.62 \text{ lb/hr} \times 2 = \mathbf{9.24 \text{ lb/hr}}$$

$$9.24 \text{ lb/hr} \times 1.15 = \mathbf{10.63 \text{ lb/hr both}}$$

$$(10.63 \text{ lbs/hr} \times 500 \text{ hr/yr}) \div (2000 \text{ lbs/ton}) = \mathbf{2.66 \text{ tons/yr both}}$$

CO (natural gas)

$$(0.03 \text{ MMcf/hr}) \times (84 \text{ lbs/MMcf}) = 2.52 \text{ lbs/hr}$$

$$2.52 \text{ lb/hr} \times 2 = \mathbf{5.04 \text{ lb/hr}}$$

$$5.04 \text{ lb/hr} \times 1.15 = \mathbf{5.796 \text{ lb/hr both}}$$

$$(5.796 \text{ lbs/hr} \times 8,260 \text{ hr/yr}) \div 2,000 \text{ lbs/ton} = \mathbf{23.94 \text{ tpy both}}$$

(No. 2 Fuel Oil)

$$5 \text{ lb}/10^3 \text{ gal} \times 0.231 \times 10^3 \text{ gal/hr} = 1.155 \text{ lb/hr}$$

$$1.155 \text{ lb/hr} \times 2 = \mathbf{2.31 \text{ lb/hr}}$$

$$2.31 \text{ lb/hr} \times 1.15 = \mathbf{2.66 \text{ lb/hr both}}$$

$$(2.66 \text{ lbs/hr} \times 500 \text{ hr/yr}) \div (2000 \text{ lbs/ton}) = \mathbf{0.67 \text{ tons/yr both}}$$

VOCs (natural gas)

$$(0.03 \text{ MMcf/hr}) \times (5.5 \text{ lbs/MMcf}) = 0.165 \text{ lbs/hr}$$

$$0.165 \text{ lb/hr} \times 2 = 0.33 \text{ lbs/h}$$

$$0.33 \text{ lb/hr} \times 1.15 = \mathbf{0.38 \text{ lb/hr both}}$$

$$(0.38 \text{ lbs/hr} \times 8,260 \text{ hr/yr}) \div 2,000 \text{ lbs/ton} = \mathbf{1.57 \text{ tpy both}}$$

(No. 2 Fuel Oil)

$$0.34 \text{ lb}/10^3 \text{ gal} \times 0.231 \times 10^3 \text{ gal/hr} = 0.07854 \text{ lb/hr}$$

$$0.07854 \times 2 = 0.15708$$

$$0.15708 \text{ lb/hr} \times 1.15 = \mathbf{0.181 \text{ lb/hr both}}$$

$$(0.181 \text{ lbs/hr} \times 500 \text{ hr/yr}) \div (2000 \text{ lbs/ton}) = \mathbf{0.045 \text{ tons/yr both}}$$

CO₂ (natural gas)

$$0.03 \text{ MMcf/hr} \times 120000 \text{ lb/MMcf} = \mathbf{3,600.00 \text{ lb/hr}}$$

$$(3,600 \text{ lbs/hr} \times 8,260 \text{ hr/yr}) \div 2,000 \text{ lbs/ton} = \mathbf{14,868.00 \text{ tpy}}$$

(No. 2 Fuel Oil)

$$22,300 \text{ lb} - \text{CO}_2/10^3 \text{ gal} \times 0.231 \times 10^3 \text{ gal/hr} = \mathbf{5,151.30 \text{ lb/hr}}$$

$$(5,151.30 \text{ lbs/hr} \times 500 \text{ hr/yr}) \div (2000 \text{ lbs/ton}) = \mathbf{1,287.825 \text{ tons/yr}}$$

Boilers B-001 and B-002 Emission Limits

Pollutant	Hourly Emission Limit Natural Gas Combined Boilers (lbs/hr)	Hourly Emission Limit No. 2 Fuel Oil Combined Boilers (lbs/hr)	Annual Emission Limit Combined Fuels & Combined Boilers (tons/year) ^{1, 2}
PM	0.51	0.96	2.35
PM ₁₀	0.51	0.96	2.35
PM _{2.5}	0.51	0.96	2.35
SO ₂	0.041	37.72	9.601
NO _x	6.90	10.63	31.157
CO	5.796	2.66	24.610
VOCs	0.38	0.181	1.615
CO ₂	3600.00	5151.30	16155.83

Boiler No. 3

Boiler No. 3 is fired with natural gas with the ability to use No. 2 fuel oil as a back-up. It is rated at 19.09 MMBtu/hr. The Department presumes that the No. 2 fuel oil shall be used as an emergency back-up when natural gas is unavailable. Therefore, emissions calculations are based on the combination of using natural gas for 8,250 hours per year and No. 2 fuel oil for 500 hours per year. The emission factors for PM come from Article XXI. For natural gas, it is assumed that PM = PM₁₀ = PM_{2.5}. Emission factors from AP-42 are increased by 15% to compensate for their variability.

$$19,090,000 \text{ Btu/hr} \div 1050 \text{ Btu/cf} = 18,180.95 \text{ cf/hr}$$

$$18,180.95 \div 1,000,000 = 0.018 \text{ MMcf/hr}$$

$$19,090,000 \text{ Btu/hr} \div 138,500 \text{ Btu/gal} = 137.83 \text{ gal/hr}$$

$$137.83 \text{ gal/hr} \div 1,000 = 0.138 \times 10^3 \text{ gal/hr}$$

PM/PM10/PM2.5 (natural gas)

$$(0.008 \text{ lbs/MMbtu}) \times (19.09 \text{ MMBtu/hr}) = \mathbf{0.153 \text{ lbs/hr}}$$

$$(0.153 \text{ lbs/hr} \times 8,260 \text{ hr/yr}) \div (2000 \text{ lbs/ton}) = \mathbf{0.63 \text{ tons/yr}}$$

(No. 2 Fuel Oil)

$$(0.015 \text{ lbs/MMbtu}) \times (19.09 \text{ MMBtu/hr}) = \mathbf{0.29 \text{ lbs/hr}}$$

$$(0.29 \text{ lbs/hr} \times 500 \text{ hr/yr}) \div (2000 \text{ lbs/ton}) = \mathbf{0.0725 \text{ tons/yr}}$$

SO₂ (natural gas)

$$(0.018 \text{ MMcf/hr}) \times (0.6 \text{ lbs/MMcf}) = 0.0108 \text{ lbs/hr}$$

$$0.0108 \text{ lb/hr} \times 1.15 = \mathbf{0.012 \text{ lb/hr}}$$

$$(0.012 \text{ lbs/hr} \times 8,260 \text{ hr/yr}) \div 2,000 \text{ lbs/ton} = \mathbf{0.05 \text{ tpy}}$$

(No. 2 Fuel Oil)

$$(142 \text{ lb}/10^3 \text{ gal} \times 0.5 \% \text{ S}) \times 0.138 \text{ } 10^3 \text{ gal/hr} = 9.798 \text{ lb/hr}$$

$$9.798 \text{ lb/hr} \times 1.15 = \mathbf{11.27 \text{ lb/hr}}$$

$$(11.27 \text{ lbs/hr} \times 500 \text{ hr/yr}) \div (2000 \text{ lbs/ton}) = \mathbf{2.82 \text{ tons/yr}}$$

NO_x (natural gas)

$$(0.018 \text{ MMcf/hr}) \times (100 \text{ lbs/MMcf}) = 1.8 \text{ lbs/hr}$$

$$1.8 \text{ lb/hr} \times 1.15 = \mathbf{2.07 \text{ lb/hr}}$$

$$(2.07 \text{ lbs/hr} \times 8,260 \text{ hr/yr}) \div 2,000 \text{ lbs/ton} = \mathbf{8.55 \text{ tpy}}$$

(No. 2 Fuel Oil)

$$20 \text{ lb}/10^3 \text{ gal} \times 0.138 \text{ } 10^3 \text{ gal/hr} = 2.76 \text{ lb/hr}$$

$$2.76 \text{ lb/hr} \times 1.15 = \mathbf{3.174 \text{ lb/hr}}$$

$$(3.174 \text{ lbs/hr} \times 500 \text{ hr/yr}) \div (2000 \text{ lbs/ton}) = \mathbf{0.79 \text{ tons/yr}}$$

CO (natural gas)

$$(0.018 \text{ MMcf/hr}) \times (84 \text{ lbs/MMcf}) = 1.512 \text{ lbs/hr}$$

$$1.512 \text{ lb/hr} \times 1.15 = \mathbf{1.74 \text{ lb/hr}}$$

$$(1.74 \text{ lbs/hr} \times 8,260 \text{ hr/yr}) \div 2,000 \text{ lbs/ton} = \mathbf{7.19 \text{ tpy}}$$

(No. 2 Fuel Oil)

$$5 \text{ lb}/10^3 \text{ gal} \times 0.138 \text{ } 10^3 \text{ gal/hr} = 0.64 \text{ lb/hr}$$

$$0.64 \text{ lb/hr} \times 1.15 = \mathbf{0.74 \text{ lb/hr}}$$

$$(0.74 \text{ lbs/hr} \times 500 \text{ hr/yr}) \div (2000 \text{ lbs/ton}) = \mathbf{0.185 \text{ tons/yr}}$$

VOCs (natural gas)

$$(0.018 \text{ MMcf/hr}) \times (5.5 \text{ lbs/MMcf}) = 0.099 \text{ lbs/hr}$$

$$0.099 \text{ lb/hr} \times 1.15 = \mathbf{0.114 \text{ lb/hr}}$$

$$(0.114 \text{ lbs/hr} \times 8,260 \text{ hr/yr}) \div 2,000 \text{ lbs/ton} = \mathbf{0.47 \text{ tpy}}$$

(No. 2 Fuel Oil)

$$0.34 \text{ lb}/10^3 \text{ gal} \times 0.138 \text{ } 10^3 \text{ gal/hr} = 0.04692 \text{ lb/hr}$$

$$0.04692 \text{ lb/hr} \times 1.15 = \mathbf{0.054 \text{ lb/hr}}$$

$$(0.054 \text{ lbs/hr} \times 500 \text{ hr/yr}) \div (2000 \text{ lbs/ton}) = \mathbf{0.0135 \text{ tons/yr}}$$

CO₂ (natural gas)

$$0.018 \text{ MMcf/hr} \times 120000 \text{ lb/MMcf} = \mathbf{2160.00 \text{ lb/hr}}$$

$$(2160.00 \text{ lbs/hr} \times 8,260 \text{ hr/yr}) \div 2,000 \text{ lbs/ton} = \mathbf{8920.80 \text{ tpy}}$$

(No. 2 Fuel Oil)

$$22,300 \text{ lb} - \text{CO}_2/10^3 \text{ gal} \times 0.138 \text{ } 10^3 \text{ gal/hr} = \mathbf{3,077.40 \text{ lb/hr}}$$

$$(3,077.40 \text{ lbs/hr} \times 500 \text{ hr/yr}) \div (2000 \text{ lbs/ton}) = \mathbf{769.35 \text{ tons/yr}}$$

Boiler B-003 Emission Limits

Pollutant	Hourly Emission Limit Natural Gas (lbs/hr)	Hourly Emission Limit No. 2 Fuel Oil (lbs/hr)	Annual Emission Limit Combined Fuels (tons/year) ^{1, 2}
PM	0.153	0.29	0.703
PM ₁₀	0.153	0.29	0.703
PM _{2.5}	0.153	0.29	0.703
SO ₂	0.012	11.27	2.87
NO _x	2.07	3.174	9.340
CO	1.74	0.74	7.375
VOCs	0.114	0.54	0.484
CO ₂	2160	3077.40	9690.15

¹ A year is defined as any consecutive 12-month period.

² Annual tons per year are based on the sum of the natural gas emissions at 8,260 hours per year and the No. 2 fuel oil emissions at 500 hours per year.

No. 2 FUEL OIL FIRED EMERGENCY GENERATOR EG-007

Emergency Generator EG-007 has a 600 kW (804 hp) and 5.6 MMBtu/hr diesel fired engine. The emissions limits for this emergency generator were taken from Operating Permit No. 0276 issued October 26, 2009. Values for formaldehyde and CO₂ were not calculated for the previous permit and are shown below. Values are based on AP-42.

CO₂

$$110 \text{ lb/MMBtu} \times 5.6 \text{ MMBtu/hr} = 616 \text{ lb/hr}$$

$$616 \text{ lb/hr} \times 400 \text{ hr} = 246400 \text{ lb/yr}$$

$$246400 \text{ lb/yr} \div 2000 \text{ lb/ton} = 123.2 \text{ tons/yr}$$

Formaldehyde

$$(0.0528 \text{ lb/MMBtu} \times 5.6 \text{ MMBtu/hr}) = 0.30 \text{ lb/hr}$$

$$0.30 \text{ lb/hr} \times (400 \text{ hr/yr} \div 2,000 \text{ lb/ton}) = 0.06 \text{ tons/yr}$$

Diesel-fired Emergency Generator EG-007 Emission Limits

Pollutant	Hourly Emissions (lb/hr)	Yearly Emissions (tons/yr) ¹
PM	0.65	0.16
PM ₁₀	0.65	0.16
PM _{2.5}	0.65	0.16
SO ₂	3.74	0.94
NO _x	14.05	3.51
CO	5.09	1.27
VOCs	0.65	0.16
CH ₂ O	0.30	0.06
CO ₂	616	123.2

¹ A year is defined as any 12 consecutive months.

No. 2 FUEL OIL FIRED EMERGENCY GENERATOR EG-008

The information upon which these emissions are calculated comes from data in the Technical Data Sheet for the Caterpillar Model C175-16 ultra lean burn engine which is used to run this emergency generator. Emissions factors for PM, NO_x CO and HC are based on the technical data sheet accompanying this permit application. For engines greater than 3,000 hp the limits in Table 1 of Part 60 Subpart IIII apply. The limits are:

PM – 0.40 g/hp-hr

NO_x – 6.9 g/hp-hr

CO – 8.5 g/hp-hr

HC – 1.0 g/hp-hr

These limits are further reduced by 90% for CO and 45% for VOCs due to the addition of a catalytic oxidizer.

From the spec sheet:

Model C175-16 84.67 liters displacement 3,763 hp

210.7 gal/hr @ 100% load

Diesel fuel Btu = 137,080 Btu/gal from North American Combustion Handbook

PM = 0.03 g/hp-hr 0.33 lb/hr

NO_x + HC = 5.19 g/hp-hr

NO_x = 5.09 g/hp-hr 49.55 lb/hr

CO = 0.65 g/hp-hr 6.21 lb/hr

HC = 0.10 g/hp-hr 0.94 lb/hr

SO₂ = 0.00205 lb/hp-hr

CO₂ = 1.15 lb/hp-hr

PM/PM10/PM2.5:

0.33 lb/hr × 400 hr/yr = 132 lb/yr

132 lb/yr ÷ 2000 lb/ton = 0.066 tons/yr **round to 0.07 tons/yr**

SO₂:

0.00205 lb/hp-hr × 3763 hp = **7.71 lb/hr**

7.71 lb/hr × 400 hr = 3084 lb/yr

3084 lb/yr ÷ 2000 lb/ton = **1.54 tons/yr**

NO_x:

49.55 lb/hr × 400 hr/yr = 19,820 lb/yr

19,820 lb/yr ÷ 2000 lb/ton = **9.91 tons/yr**

CO:

$6.21 \text{ lb/hr} \times (1.0 - 0.9) = 0.621 \text{ lb/hr}$
 $0.621 \text{ lb/hr} \times 400 = 248.40 \text{ lb/hr}$
 $248.40 \text{ lb/yr} \div 2000 \text{ lb/ton} = 0.1242 \text{ tons/yr}$ **round to 0.12 tons/yr**

VOCs:

$0.94 \text{ lb/hr} \times (1.0 - 0.45) = 0.517 \text{ lb/hr}$
 $0.517 \text{ lb/hr} \times 400 \text{ hr/yr} = 206.8 \text{ lb/yr}$
 $206.8 \text{ lb/yr} \div 2000 \text{ lb/ton} = 0.1034 \text{ tons/yr}$ **round to 0.103 tons/yr**

CO₂

$1.15 \text{ lb/hp-hr} \times 3763 \text{ hp} = 4327.45 \text{ lb/hr}$
 $4327.45 \text{ lb/hr} \times 400 \text{ hr} = 1,730,980 \text{ lb/yr}$
 $1,730,980 \text{ lb/yr} \div 2000 \text{ lb/ton} = 865.49 \text{ tons/yr}$

Formaldehyde

$(137,080 \text{ Btu/gal} \times 210.7 \text{ gal/hr} \times 0.00118 \text{ lb formaldehyde/MMBtu}) \div 1,000,000 = 0.034 \text{ lb/hr}$
 $0.034 \text{ lb/hr} \times (400 \text{ hr/yr} \div 2,000 \text{ lb/ton}) = 0.0068 \text{ tons/yr}$

Diesel-fired Emergency Generator EG-008 Emission Limits

Pollutant	Hourly Emissions (lb/hr)	Yearly Emissions (tons/yr) ¹
PM	0.33	0.07
PM ₁₀	0.33	0.07
PM _{2.5}	0.33	0.07
SO ₂	7.71	1.54
NO _x	49.55	9.91
CO	0.621	0.12
VOCs	0.517	0.103
CH ₂ O	0.034	0.0068
CO ₂	4327.45	865.49

¹ A year is defined as any 12 consecutive months.

**No. 2 FUEL OIL FIRED EMERGENCY GENERATORS EG-009, EG-010, EG-011 and EG-012:
USING 100% DIESEL FUEL**

The information upon which these emissions are calculated comes from data in the Technical Data Sheet for the Caterpillar Model 3512C ultra lean burn engine which is used to run these emergency generators. Emissions factors for PM, NO_x CO and HC are based on the technical data sheet accompanying this permit application. There are four (4) such emergency generators at this facility.

These emergency generators are equipped with an Altronic dual fuel system. This system can feed a mixture of fuel oil and natural gas. The maximum permitted percentage of natural gas is 40%. The Btu value of the natural gas is 1066 Btu/ft³. Emissions are calculated only for fuel oil because such calculations are expected to produce the highest emissions level for NO_x while the emissions for CO and VOCs are reduced by the presence of the catalytic oxidizers.

Model 3512C EG009 to EG012 1,500 kW and 2206 bhp

For engines greater than 50 hp and less than 3,000 hp the limits in Table 1 of Part 60 Subpart IIII apply.

Fuel consumption is 104.8 gal/hr @ 100% load

Diesel fuel Btu = 137,080 Btu/gal from North American Combustion Handbook

NO_x + HC = 6.4 g/kW-hr (5.65 g/hp-hr)

$$\text{CO} = 3.5 \text{ g/kW-hr (2.61 g/hp-hr)}$$

$$\text{PM} = 0.2 \text{ g/Kw-hr (0.15 g/hp-hr)}$$

$$\text{NO}_x = 4.97 \text{ g/hp-hr } 28.98 \text{ lb/hr}$$

$$\text{CO} = 0.45 \text{ g/hp-hr } 3.95 \text{ lb/hr}$$

$$\text{HC} = 0.11 \text{ g/hp-hr } 0.71 \text{ lb/hr}$$

$$\text{PM} = 0.03 \text{ g/hp-hr } 0.20 \text{ lb/hr}$$

$$\text{SO}_2 = .00205 \text{ lb/hp-hr}$$

$$\text{CO}_2 = 1.15 \text{ lb/hp-hr}$$

Each of these engines has a catalytic converter that reduces the CO emissions by 90% and the VOC emissions by 45%. The calculations incorporate these reductions in emissions.

Model QSX15-G9 EG013

PM/PM10/PM2.5:

$$0.2 \text{ lb/hr} \times 4 = 0.8 \text{ lb/hr}$$

$$0.80 \text{ lb/hr} \times 400 \text{ hr/yr} = 320 \text{ lb/yr}$$

$$320 \text{ lb/yr} \div 2000 \text{ lb/ton} = \mathbf{0.16 \text{ tons/yr}}$$

SO₂:

$$0.00205 \text{ lb/hp-hr} \times 2206 \text{ hp} = \mathbf{4.52 \text{ lb/hr}}$$

$$4.52 \text{ lb/hr} \times 4 = 18.08 \text{ lb/hr}$$

$$18.08 \text{ lb/hr} \times 400 \text{ hr} = 7232 \text{ lb/yr}$$

$$7232 \text{ lb/yr} \div 2000 \text{ lb/ton} = \mathbf{3.62 \text{ tons/yr}}$$

NO_x:

$$28.98 \text{ lb/hr} \times 4 = 115.92 \text{ lb/hr}$$

$$115.92 \text{ lb/hr} \times 400 \text{ hr/yr} = 46,368 \text{ lb/yr}$$

$$46,368 \text{ lb/yr} \div 2000 \text{ lb/ton} = \mathbf{23.18 \text{ tons/yr}}$$

CO:

$$3.95 \text{ lb/hr} \times (1.0 - 0.9) = 0.395 \text{ lb/hr}$$

$$0.395 \text{ lb/hr} \times 4 = 1.58 \text{ lb/hr}$$

$$1.58 \text{ lb/hr} \times 400 \text{ hr/yr} = 632 \text{ lb/yr}$$

$$632 \text{ lb/yr} \div 2000 \text{ lb/ton} = \mathbf{0.32 \text{ tons/yr}}$$

VOCs:

$$0.71 \text{ lb/hr} \times 1.0 - 0.45) = 0.39 \text{ lb/hr}$$

$$0.39 \text{ lb/hr} \times 4 = 1.56 \text{ lb/hr}$$

$$1.56 \text{ lb/hr} \times 400 \text{ hr/yr} = 624 \text{ lb/yr}$$

$$624 \text{ lb/yr} \div 2000 \text{ lb/ton} = \mathbf{0.31 \text{ tons/yr}}$$

CO₂

$$1.15 \text{ lb/hp-hr} \times 2206 \text{ hp} = \mathbf{2536.90 \text{ lb/hr}}$$

$$2536.9 \text{ lb/hr} \times 4 = \mathbf{10147.6 \text{ lb/hr combined}}$$

$$10147.6 \text{ lb/hr} \times 400 \text{ hr} = 5,073,800 \text{ lb/yr}$$

$$4,059,040 \text{ lb/yr} \div 2000 \text{ lb/ton} = \mathbf{2,029.52 \text{ tons/yr combined}}$$

$$(137,080 \text{ Btu/gal} \times 104.8 \text{ gal/hr} \times 0.00118 \text{ lb formaldehyde/MMBtu}) \div 1,000,000 = 0.017 \text{ lb/hr}$$

$$0.017 \text{ lb/hr} \times 4 = 0.068$$

$$0.068 \text{ lb/hr} \times (400 \text{ hr/yr} \div 2,000 \text{ lb/ton}) = 0.0136 \text{ tons/yr}$$

Diesel-fired Emergency Generators EG-009 to EG-012 Emission Limits

Pollutant	Hourly Emissions (lb/hr)	Hourly Emissions: Combined Generators (lb/hr)	Yearly Emissions: Combined Generators (tons/yr) ¹
PM	0.2	0.8	0.16
PM ₁₀	0.2	0.8	0.16
PM _{2.5}	0.2	0.8	0.16
SO ₂	4.52	18.08	3.62
NO _x	28.98	115.92	23.18
CO	0.395	1.58	0.32
VOCs	0.39	1.56	0.32
CH ₂ O	0.017	0.068	0.0136
CO ₂	2536.90	10147.60	2029.52

¹ A year is defined as any 12 consecutive months.

**No. 2 FUEL OIL FIRED EMERGENCY GENERATORS EG-009, EG-010, EG-011 and EG-012:
USING A MIXTURE OF 60% DIESEL FUEL AND 40% NATURAL GAS**

The information upon which these emissions are calculated comes from data in the Technical Data Sheet for the Caterpillar Model 3512C ultra lean burn engine which is used to run these emergency generators. Emissions factors for PM, NO_x CO and HC are based on the technical data sheet accompanying this permit application.

There are four (4) such emergency generators at this facility.

Model 3512C EG009 to EG012 1,500 kW and 2206 bhp

For engines greater than 50 hp and less than 3,000 hp the limits in Table 1 of Part 60 Subpart IIII apply.

Fuel consumption is 104.8 gal/hr @ 100% load

Diesel fuel Btu = 137,080 Btu/gal per the North American Combustion Handbook

NO_x + HC = 6.4 g/kW-hr (5.65 g/hp-hr)

CO = 3.5 g/kW-hr (2.61 g/hp-hr)

PM = 0.2 g/Kw-hr (0.15 g/hp-hr)

NO_x = 17.84 lb/hr

CO = 0.05 lb/hr

HC = 0.44 lb/hr

PM = 0.06 lb/hr

SO₂ = .00205 lb/hp-hr

CO₂ = 1.15 lb/hp-hr

Each of these engines has a catalytic converter that reduces the CO emissions by 90% and the VOC emissions by 45%. The calculations incorporate these reductions in emissions.

Model QSX15-G9 EG013

PM/PM10/PM2.5:

0.06 lb/hr × 4 = 0.24 lb/hr

0.24 lb/hr × 400 hr/yr = 96 lb/yr

96 lb/yr ÷ 2000 lb/ton = **0.05 tons/yr**

SO₂:

0.00205 lb/hp-hr × 2206 hp = **4.52 lb/hr**

4.52 lb/hr × 4 = 18.08 lb/hr

$$18.08 \text{ lb/hr} \times 400 \text{ hr} = 7232 \text{ lb/yr}$$

$$7232 \text{ lb/yr} \div 2000 \text{ lb/ton} = \mathbf{3.62 \text{ tons/yr}}$$

NO_x:

$$17.84 \text{ lb/hr} \times 4 = \mathbf{71.36 \text{ lb/hr}}$$

$$71.36 \text{ lb/hr} \times 400 \text{ hr/yr} = 28,544 \text{ lb/yr}$$

$$28,544 \text{ lb/yr} \div 2000 \text{ lb/ton} = \mathbf{14.27 \text{ tons/yr}}$$

CO:

$$0.05 \text{ lb/hr} \times 4 = \mathbf{0.20 \text{ lb/hr}}$$

$$0.2 \text{ lb/hr} \times 400 \text{ hr/yr} = 80 \text{ lb/yr}$$

$$80 \text{ lb/yr} \div 2000 \text{ lb/ton} = \mathbf{0.04 \text{ tons/yr}}$$

VOCs:

$$0.44 \text{ lb/hr} \times 4 = \mathbf{1.76 \text{ lb/hr}}$$

$$1.76 \text{ lb/hr} \times 400 \text{ hr/yr} = 704 \text{ lb/yr}$$

$$704 \text{ lb/yr} \div 2000 \text{ lb/ton} = \mathbf{0.35 \text{ tons/yr}}$$

CO₂

$$1.15 \text{ lb/hp-hr} \times 2206 \text{ hp} = \mathbf{2536.90 \text{ lb/hr}}$$

$$2536.9 \text{ lb/hr} \times 4 = 10147.6 \text{ lb/hr}$$

$$10147.6 \text{ lb/hr} \times 400 \text{ hr} = 5,073,800 \text{ lb/yr}$$

$$4,059,040 \text{ lb/yr} \div 2000 \text{ lb/ton} = \mathbf{2,029.52 \text{ tons/yr}}$$

Formaldehyde

$$(137,080 \text{ Btu/gal} \times 104.8 \text{ gal/hr} \times 0.00118 \text{ lb formaldehyde/MMBtu}) \div 1,000,000 = 0.017 \text{ lb/hr}$$

$$0.017 \text{ lb/hr} \times 4 = 0.068$$

$$0.068 \text{ lb/hr} \times (400 \text{ hr/yr} \div 2,000 \text{ lb/ton}) = 0.0136 \text{ tons/yr}$$

Diesel-fired Emergency Generators EG-009 to EG-012 Emission Limits

Pollutant	Hourly Emissions: Single Generator (lb/hr)	Hourly Emissions: Combined Generators (lb/hr)	Yearly Emissions: Combined Generators (tons/yr) ¹
PM	0.06	0.24	0.05
PM ₁₀	0.06	0.24	0.05
PM _{2.5}	0.06	0.24	0.05
SO ₂	4.52	18.08	3.62
NO _x	17.84	71.36	14.27
CO	0.05	0.20	0.04
VOCs	0.44	1.76	0.35
CH ₂ O	0.017	0.068	0.0136
CO ₂	2536.90	10147.60	2029.52

¹ A year is defined as any 12 consecutive months.

No. 2 FUEL OIL FIRED EMERGENCY GENERATOR EG-013

The information upon which these emissions are calculated comes from data in the Technical Data Sheet for the Caterpillar Model QSX-15-G9 ultra lean burn engine which is used to run this emergency generator. Emissions factors for PM, NO_x CO and HC are based on the technical data sheet accompanying this permit application.

Diesel fuel Btu = 137,080 Btu/gal from North American Combustion Handbook

NO_x = 5.15 g/hp-hr

CO = 0.41 g/hp-hr

HC = 0.08 g/hp-hr
PM = 0.02 g/hp-hr
SO₂ = .00205 lb/hp-hr
CO₂ = 1.15 lb/hp-hr
30.6 gal/hr @ full prime load
680 hp

PM/PM10/PM2.5:

0.02 g/hp-hr lb/hr × 680 hp × (1 lb/453.59 g) = **0.03 lb/hr**
0.03 lb/hr × 400 hr/yr = 12 lb/yr
12 lb/yr ÷ 2000 lb/ton = **0.0075 tons/yr**

SO₂:

0.00205 lb/hp-hr × 680 hp = **1.39 lb/hr**
1.39 lb/hr × 400 hr = 556 lb/yr
556 lb/yr ÷ 2000 lb/ton = **0.28 tons/yr**

NO_x:

5.15 g/hp-hr lb/hr × 680 hp × (1 lb/453.59 g) = **7.72 lb/hr**
7.72 lb/hr × 400 hr/yr = 3,088 lb/yr
3,088 lb/yr ÷ 2000 lb/ton = **1.54 tons/yr**

CO:

0.41 g/hp-hr lb/hr × 680 hp × (1 lb/453.59 g) = **0.61 lb/hr**
0.61 lb/hr × 400 hr/yr = 244 lb/yr
244 lb/yr ÷ 2000 lb/ton = **0.122 tons/yr**

VOCs:

0.08 g/hp-hr lb/hr × 680 hp × (1 lb/453.59 g) = **0.12 lb/hr**
0.12 lb/hr × 400 hr/yr = 48 lb/yr
48 lb/yr ÷ 2000 lb/ton = **0.024 tons/yr**

CO₂

1.15 lb/hp-hr × 680 hp = **782 lb/hr**
782 lb/hr × 400 hr = 312,800 lb/yr
312,800 lb/yr ÷ 2000 lb/ton = **156.4 tons/yr**

Formaldehyde:

(137,080 Btu/gal × 34.7 gal/hr × 0.00118 lb formaldehyde/MMBtu) ÷ 1,000,000 = 0.005813 lb/hr round to
0.0056 lb/hr
0.0056 lb/hr × (400 hr/yr ÷ 2,000 lb/ton) = 0.0011 tons/yr

Diesel-fired Emergency Generator EG-013 Emission Limits

Pollutant	Hourly Emissions (lb/hr)	Yearly Emissions (tons/yr) ¹
PM	0.03	0.006
PM ₁₀	0.03	0.006
PM _{2.5}	0.03	0.006
SO ₂	1.39	0.28
NO _x	7.72	1.54
CO	0.61	0.122
VOCs	0.12	0.024
CH ₂ O	0.0056	0.0011
CO ₂	782.00	156.40

¹ A year is defined as any 12 consecutive months.

No. 2 FUEL OIL FIRED EMERGENCY GENERATOR EG-014

Note: This emergency generator will be removed from service by December 31, 2014.

Emission limits based on the "Exhaust Information Data Sheet" for the emergency generator.

Model DQKAB ER014 bhp = 2922

137.9 gal/hr @ 100% load

Diesel fuel Btu = 137080 Btu/gal from North American Combustion Handbook

NO_x = 5.11 g/hp-hr

CO = 0.21 g/hp-hr

HC = 0.23 g/hp-hr

PM = 0.04 g/hp-hr

SO₂ = 0.10 g/hp-hr

CO₂ = 1.15 lb/hp-hr

PM/PM10/PM2.5:

0.04 g/hp-hr lb/hr × 2922 hp × (1 lb/453.59 g) = **0.26 lb/hr**

0.26 lb/hr × 400 hr/yr = 104 lb/yr

104 lb/yr ÷ 2000 lb/ton = **0.05 tons/yr**

SO₂:

0.10 g/hp-hr lb/hr × 2922 hp × (1 lb/453.59 g) = **0.64 lb/hr**

0.64 lb/hr × 400 hr/yr = 256 lb/yr

256 lb/yr ÷ 2000 lb/ton = **0.13 tons/yr**

NO_x:

5.11 g/hp-hr lb/hr × 2922 hp × (1 lb/453.59 g) = **32.92 lb/hr**

32.92 lb/hr × 400 hr/yr = 13,168 lb/yr

13,168 lb/yr ÷ 2000 lb/ton = **6.58 tons/yr**

CO:

0.21 g/hp-hr lb/hr × 2922 hp × (1 lb/453.59 g) = **1.35 lb/hr**

1.35 lb/hr × 400 hr/yr = 540 lb/yr

540 lb/yr ÷ 2000 lb/ton = **0.27 tons/yr**

VOCs:

0.23 g/hp-hr lb/hr × 2922 hp × (1 lb/453.59 g) = **1.48 lb/hr**

1.48 lb/hr × 400 hr/yr = 592 lb/yr

592 lb/yr ÷ 2000 lb/ton = **0.30 tons/yr**

CO₂

1.15 lb/hp-hr × 2922 hp = **3360.3 lb/hr**
3360.3 lb/hr × 400 hr = 1,344,120 lb/yr
1,344,120 lb/yr ÷ 2000 lb/ton = **672.06 tons/yr**

Formaldehyde:

(137,080 Btu/gal × 137.9 gal/hr × 0.00118 lb formaldehyde/MMBtu) ÷ 1,000,000 = 0.022 lb/hr
0.022 lb/hr × (400 hr/yr ÷ 2,000 lb/ton) = 0.0044 tons/yr

Diesel-fired Emergency Generator EG-014 Emission Limits

Pollutant	Hourly Emissions (lb/hr)	Yearly Emissions (tons/yr) ¹
PM	0.26	0.05
PM ₁₀	0.26	0.05
PM _{2.5}	0.26	0.05
SO ₂	0.64	0.13
NO _x	32.92	6.58
CO	1.35	0.27
VOCs	1.48	0.30
CH ₂ O	0.022	0.0044
CO ₂	3360.3	672.06

¹ A year is defined as any 12 consecutive months.

CATALYTIC OXIDIZER FOR THE ETHYLENE OXIDE (ETO) STERILIZERS

Two (2) Sterilizers

16 hours/cycle for each sterilizer

170 grams of ETO used for each cycle

99% efficiency for the catalytic oxidizer

Ethylene Oxide:

2 sterilizers × (8760 hr/yr ÷ 16 hr/cycle) = 1095 cycles/yr
1095 cycles/yr × (170 g ETO/cycle ÷ (1 lb/454 g)) = 410.02 lb/yr round to 410 lb/yr
410 lb/yr ÷ 8760 hr/yr = 0.047 lb/hr
410 lb/yr ÷ 2000 lb/ton = 0.21 tons/yr
410.02 × (1.00 – 0.99) = 4.1 lb/yr
4.1 lb/yr ÷ 8760 hr/yr = 0.0047 lb/hr
4.1 lb/yr ÷ 2000 lb/ton = 0.0021 tpy

Ethylene Oxide Catalytic Oxidizer

Pollutant	Hourly Emissions (lb/hr)	Yearly Emissions (tons/yr) ¹
Ethylene Oxide	0.0047	0.0021

¹ A year is defined as any 12 consecutive months.

No. 2 FUEL OIL FIRED FIRE PUMP FP-001:

The information upon which emissions for PM, NO_x CO and HC are calculated comes from data in the Technical Data Sheet for the Clark Model JU4H-UFADW8 Fire Pump powered by a 144 hp John Deere compression ignition engine. Emissions for SO₂, formaldehyde and CO₂ are based on data from AP-42. The emission factors are:

PM – 0.09 g/hp-hr

NO_x – 2.8 g/hp-hr

CO – 1.0 g/hp-hr

HC – 0.1 g/hp-hr

SO₂ – 0.00205 lb/hp-hr; Table 3.3-1

Formaldehyde – 0.00118 lb/MMBtu; Table 3.3-2

CO₂ – 1.15 lb/hp-hr; Table 3.3-1

From the spec sheet:

144 hp

10 gal/hr @ 100% load

Diesel fuel Btu = 140,000

PM/PM10/PM2.5:

$0.09 \text{ g/hp-hr} \times 144 \text{ hp} \times (1 \text{ lb}/453.59 \text{ g}) = \mathbf{0.029 \text{ lb/hr}}$

$0.029 \text{ lb/hr} \times 500 \text{ hr/yr} = 14.5 \text{ lb/yr}$

$14.5 \text{ lb/yr} \div 2000 \text{ lb/ton} = \mathbf{0.0073 \text{ tons/yr}}$

SO₂:

$0.00205 \text{ lb/hp-hr} \times 144 \text{ hp} = \mathbf{0.30 \text{ lb/hr}}$

$0.30 \text{ lb/hr} \times 500 \text{ hr} = 150 \text{ lb/yr}$

$150 \text{ lb/yr} \div 2000 \text{ lb/ton} = \mathbf{0.075 \text{ tons/yr}}$

NO_x:

$2.8 \text{ g/hp-hr} \times 144 \text{ hp} \times (1 \text{ lb}/453.59 \text{ g}) = \mathbf{0.89 \text{ lb/hr}}$

$0.89 \text{ lb/hr} \times 500 \text{ hr/yr} = 445 \text{ lb/yr}$

$445 \text{ lb/yr} \div 2000 \text{ lb/ton} = \mathbf{0.22 \text{ tons/yr}}$

CO:

$1.0 \text{ g/hp-hr} \times 144 \text{ hp} \times (1 \text{ lb}/453.59 \text{ g}) = \mathbf{0.32 \text{ lb/hr}}$

$0.32 \text{ lb/hr} \times 500 \text{ hr/yr} = 160 \text{ lb/yr}$

$160 \text{ lb/yr} \div 2000 \text{ lb/ton} = \mathbf{0.08 \text{ tons/yr}}$

VOCs:

$0.1 \text{ g/hp-hr} \times 144 \text{ hp} \times (1 \text{ lb}/453.59 \text{ g}) = \mathbf{0.032 \text{ lb/hr}}$

$0.032 \text{ lb/hr} \times 500 \text{ hr/yr} = 16 \text{ lb/yr}$

$16 \text{ lb/yr} \div 2000 \text{ lb/ton} = \mathbf{0.008 \text{ tons/yr}}$

CO₂

$1.15 \text{ lb/hp-hr} \times 144 \text{ hp} = \mathbf{165.6 \text{ lb/hr}}$

$165.6 \text{ lb/hr} \times 500 \text{ hr} = 82,800 \text{ lb/yr}$

$82,800 \text{ lb/yr} \div 2000 \text{ lb/ton} = \mathbf{41.4 \text{ tons/yr}}$

Formaldehyde:

$(140,000 \text{ Btu/gal} \times 10 \text{ gal/hr} \times 0.00118 \text{ lb formaldehyde/MMBtu}) \div 1,000,000 = \mathbf{0.0017 \text{ lb/hr}}$

$0.0017 \text{ lb/hr} \times (500 \text{ hr/yr} \div 2,000 \text{ lb/ton}) = \mathbf{0.0004 \text{ tons/yr}}$

Diesel-fired Emergency Fire Pump FP-001 Emission Limits

Pollutant	Hourly Emissions (lb/hr)	Yearly Emissions (tons/yr) ¹
PM	0.029	0.0073
PM ₁₀	0.029	0.0073
PM _{2.5}	0.029	0.0073
SO ₂	0.30	0.075
NO _x	0.89	0.22
CO	0.32	0.08
VOCs	0.032	0.008
CH ₂ O	0.0017	0.0004
CO ₂	165.60	41.40

¹ A year is defined as any 12 consecutive months.

COOLING TOWERS:

There are three (3) cooling towers at this facility. Changes in the cooling towers resulted in reduced emissions compared to the previous operating permit. To calculate the cooling tower emissions, the average of the three cooling tower total dissolved solids was used. $(1360 \text{ ppm} + 1444 \text{ ppm} + 1444 \text{ ppm}) \div 3 = 1416 \text{ ppm}$

Circulation Flow Rate (gal/min):	1,000
Total Drift (%):	0.016%
Total Dissolved Solids (ppm):	1,416
Density (lbs/gal):	8.345
Total Day of Operation (all CT):	8,760

Single cooling tower:

$1000 \text{ gpm circulation rate} \times 60 \text{ sec/min} \times 0.00016 \text{ drift rate} \times (1416 \text{ ppm tds} \div 1,000,000) \times 8.345 \text{ lbs/gal} = 0.11343 \text{ round to } \mathbf{0.11 \text{ lb/hr}}$

Single cooling tower:

$0.11 \text{ lb/hr} \times (8760 \div 2000) = 0.4818 \text{ tpy round to } \mathbf{0.48 \text{ tpy}}$

Combined cooling towers:

$0.48 \text{ tpy} \times 3 = \mathbf{1.44 \text{ tpy}}$

Cooling Towers

Pollutant	Hourly Emission Limit (lbs/hr)	Annual Emission Limit (tons/year)	Combined Annual Emission Limit (tons/year)
PM	0.11	0.48	1.44
PM ₁₀	0.11	0.48	1.44
PM _{2.5}	0.11	0.48	1.44

ALLEGHENY COUNTY HEALTH DEPARTMENT



AIR QUALITY PROGRAM
301 39th Street, Bldg. #7
Pittsburgh, PA 15201-1891

Synthetic Minor Source **Operating Permit**


<u>Issued To:</u>	Veterans Affairs Medical Center Oakland Facility	<u>ACHD Permit #:</u>	0276
<u>Facility:</u>	Veterans Affairs Medical Center Oakland Facility University Drive C Pittsburgh, PA 15240	<u>Date of Issuance:</u>	08/26/2014
		<u>Expiration Date:</u>	08/25/2019
		<u>Renewal Date:</u>	02/25/2019
<u>Issued By:</u>	 Sandra L. Etzel Air Pollution Control Mgr.	<u>Prepared By:</u>	<u>Michael Dorman</u> Air Quality Engineer

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AMENDMENTS:

DATE	SECTION(S)
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8-25-2014	§ I: Updated the name of the "Responsible Official"; §III: Added Condition III.15.e which allows for electronic submission of semi-annual reports
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I. CONTACT INFORMATION

Facility Location: Veterans Affairs Medical Center, Oakland Facility
University Drive C
Pittsburgh, PA 15240

Permittee/Owner: Veterans Affairs Medical Center, Oakland Facility
University Drive C
Pittsburgh, PA 15240

Permittee/Operator: same as above
(if not Owner)

Responsible Official: David Macpherson, MD, MPH
Title: Acting Director
Company: VA Pittsburgh Healthcare System
Address: University Drive C
Pittsburgh, PA 15240

Telephone Number: 412-360-6391
Fax Number: 412-360-6899

Facility Contact: James M. Rowlett
Title: GEMS/Emergency Preparedness Coordinator
Telephone Number: 412-360-3776
Fax Number: 412-360-689
E-mail Address: james.rowlett@va.gov

AGENCY ADDRESSES:

ACHD Contact: Chief Engineer
Allegheny County Health Department
Air Quality Program
301 39th Street, Building #7
Pittsburgh, PA 15201-1891

II. FACILITY DESCRIPTION

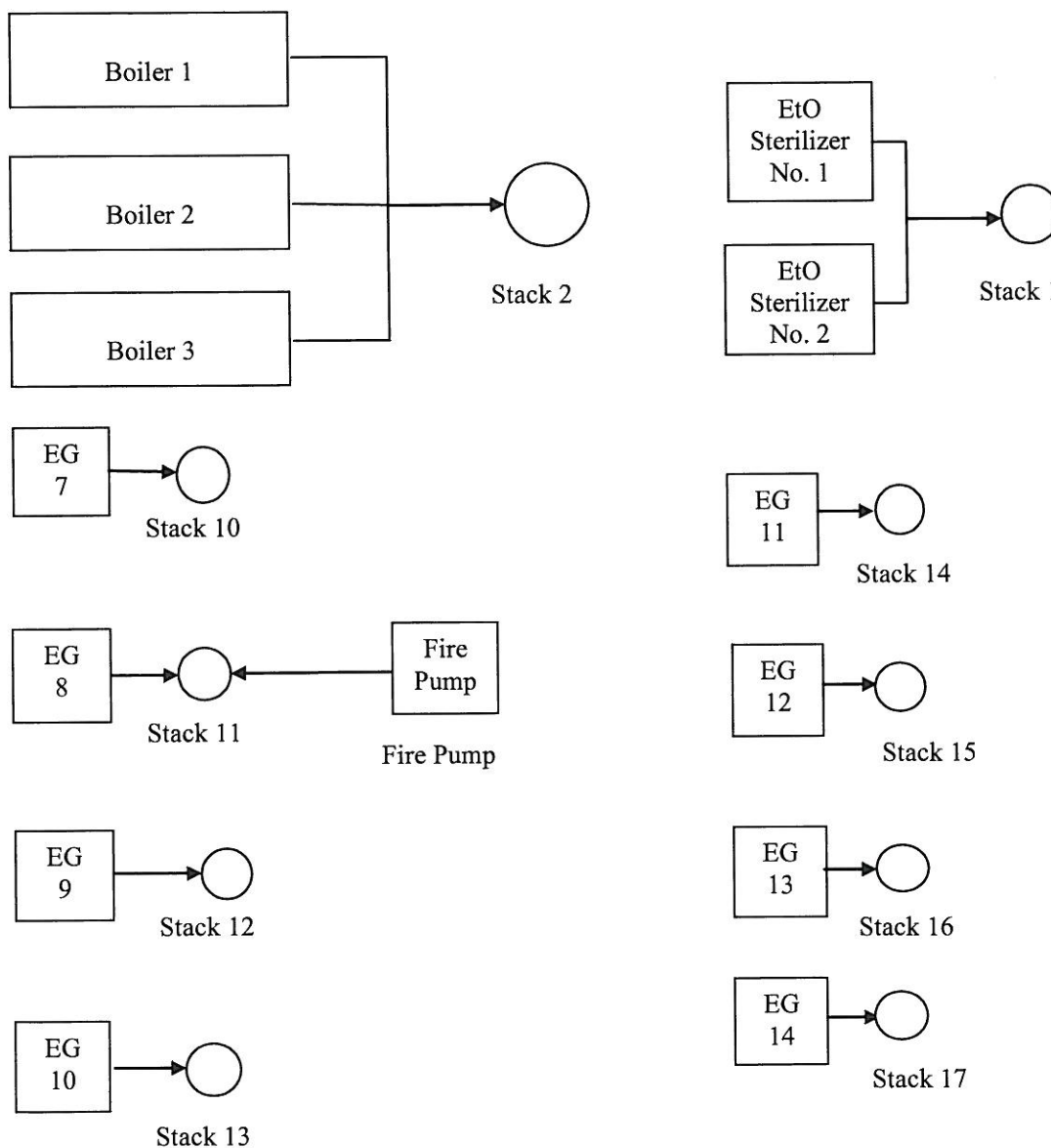
The Veterans Affairs Pittsburgh Healthcare System consists of three Divisions operating under one management. The University Drive Division is located in the Oakland District of Pittsburgh adjacent to the University of Pittsburgh. University Drive serves as the acute care facility and has approximately 146 operating beds distributed among Medicine, Surgery, Neurology, and Critical Care. A large Primary Care outpatient clinic is also located here. The source consists of three (3) boilers, eight (8) emergency generators, one (1) fire pump, two (2) ethylene oxide sterilizers, three (3) cooling towers, five (5) diesel fuel storage tanks and three (3) No. 2 fuel oil storage tanks. The boilers are used to provide comfort heating and hot water for the building. These boilers are natural gas fired, with No. 2 fuel oil used as an emergency back-up fuel, vent through one combined stack. The emergency generators are designed to power hospital equipment in the event that utility power is interrupted.

The facility is a synthetic minor for nitrogen oxides (NO_x) and a minor source of particulate matter (PM), particulate matter < 10 microns in diameter (PM-10), particulate matter < 2.5 microns in diameter (PM-2.5), sulfur dioxide (SO_2), carbon monoxide (CO), volatile organic compounds (VOCs) and hazardous air pollutants (HAPs).

TABLE II-1: Emission Unit Identification

I.D.	SOURCE DESCRIPTION	CONTROL DEVICE(S)	MAXIMUM CAPACITY	FUEL/RAW MATERIAL	STAC K I.D.
B-001	Tampella Power Corp Boiler No. 1, Model No.: DS 30	None	31.93 MMBtu/Hr	Natural Gas	S002
B-002	Tampella Power Corp Boiler No. 2, Model No.: DS 30		31.93 MMBtu/Hr		
B-003	Tampella Power Corp Boiler No. 3, Model No.: DS 30		19.0 9MMBtu/Hr		
EG-007	Cummins, Model No. DCQA-5779489		600 KW (804 hp)	No. 2 Fuel Oil Ultra-low Sulfur	S010
EG-008	Caterpillar, Model C175-16 Emergency Generator	Catalytic Oxidizer	2850 kW (3263 hp)		S011
EG-009	Caterpillar, Model 3512C Emergency Generator		1500 kW (2206 hp)		S012
EG-010	Caterpillar, Model 3512C Emergency Generator		1500 kW (2206 hp)		S013
EG-011	Caterpillar, Model 3512C Emergency Generator		1500 kW (2206 hp)		S014
EG-012	Caterpillar, Model 3512C Emergency Generator		1500 kW (2206 hp)		S015
EG-013	Cummins, Model QSX15-G9 Emergency Generator	None	563 kW (680 hp)		S016
EG-014	Cummins, Model QSK60-G6 NR2 Emergency Generator		2000 kW (2922 hp)		S017
CO-001	Ethylene Oxide Sterilizer: 3M/EO Model: 50	Catalytic Oxidizer	170 g EtO/cycle	Ethylene Oxide	S001
CO-002	Ethylene Oxide Sterilizer: 3M/EO Model: 50		170 g EtO/cycle		
FP-001	Clark Fire Protection Products Fire Pump - Model: JU4H-UFDW8	None	144 hp	Diesel Fuel Ultra-low Sulfur	S011
CT-001	3 - Cooling Water Towers		1,000 gal/min	NA	
D001	Fuel Tank		10,000	No. 2 Fuel Oil	NA
D002	Fuel Tank		10,000		
D003	Fuel Tank		10,000		
T-006	Fuel Tank		15,000 gal	Diesel Fuel Ultra-low Sulfur	
T-007	Fuel Tank		15,000 gal		
T-008	Fuel Tank		10,000 gal		
T-009	Fuel Tank		4,000 gal		
T-010	Fuel Tank		280 gal		

FLOW DIAGRAM



DECLARATION OF POLICY

Pollution prevention is recognized as the preferred strategy (over pollution control) for reducing risk to air resources. Accordingly, pollution prevention measures should be integrated into air pollution control programs wherever possible, and the adoption by sources of cost-effective compliance strategies, incorporating pollution prevention, is encouraged. The Department will give expedited consideration to any permit modification request based on pollution prevention principles.

The permittee is subject to the terms and conditions set forth below. These terms and conditions constitute provisions of *Allegheny County Health Department Rules and Regulations, Article XXI Air Pollution Control*. The subject equipment has been conditionally approved for operation. The equipment shall be operated in conformity with the plans, specifications, conditions, and instructions which are part of your application, and may be periodically inspected for compliance by the Department. In the event that the terms and conditions of this permit or the applicable provisions of Article XXI conflict with the application for this permit, these terms and conditions and the applicable provisions of Article XXI shall prevail. Additionally, nothing in this permit relieves the permittee from the obligation to comply with all applicable Federal, State and Local laws and regulations.

III. GENERAL CONDITIONS - Minor Source**1. Prohibition of Air Pollution (§2101.11)**

It shall be a violation of this permit to fail to comply with, or to cause or assist in the violation of, any requirement of this permit, or any order or permit issued pursuant to authority granted by Article XXI. The permittee shall not willfully, negligently, or through the failure to provide and operate necessary control equipment or to take necessary precautions, operate any source of air contaminants in such manner that emissions from such source:

- a. Exceed the amounts permitted by this permit or by any order or permit issued pursuant to Article XXI;
- b. Cause an exceedance of the ambient air quality standards established by Article XXI §2101.10; or
- c. May reasonably be anticipated to endanger the public health, safety, or welfare.

2. Definitions (§2101.20)

- a. Except as specifically provided in this permit, terms used retain the meaning accorded them under the applicable provisions and requirements of Article XXI or the applicable federal or state regulation. Whenever used in this permit, or in any action taken pursuant to this permit, the words and phrases shall have the meanings stated, unless the context clearly indicates otherwise.
- b. Unless specified otherwise in this permit or in the applicable regulation, the term “year” shall mean any twelve (12) consecutive months.

3. Conditions (§2102.03.c)

It shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02, for any person to fail to comply with any terms or conditions set forth in this permit.

4. Certification (§2102.01)

Any report, or compliance certification submitted under this permit shall contain written certification by a responsible official as to truth, accuracy, and completeness. This certification and any other certification required under this permit shall be signed by a responsible official of the source, and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

5. Transfers (§2102.03.e)

This permit shall not be transferable from one person to another, except in accordance with Article XXI §2102.03.e and in cases of change-in-ownership which are documented to the satisfaction of the Department, and shall be valid only for the specific sources and equipment for which this permit was issued. The transfer of permits in the case of change-in-ownership may be made consistent with the administrative permit amendment procedure of Article XXI §2103.14.b The required documentation and fee must be received by the Department at least 30 days before the intended transfer date.

6. Term (§2103.12.e, §2103.13.a)

- a. This permit shall remain valid for five (5) years from the date of issuance, or such other shorter period if required by the Clean Air Act, unless revoked. The terms and conditions of an expired permit shall automatically continue pending issuance of a new operating permit provided the permittee has submitted a timely and complete application and paid applicable fees required under Article XXI Part C, and the Department through no fault of the permittee is unable to issue or deny a new permit before the expiration of the previous permit.
- b. Expiration. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with the requirements of Article XXI Part C.

7. Need to Halt or Reduce Activity Not a Defense (§2103.12.f.2)

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

8. Property Rights (§2103.12.f.4)

This permit does not convey any property rights of any sort, or any exclusive privilege.

9. Duty to Provide Information (§2103.12.f.5)

- a. The permittee shall furnish to the Department in writing within a reasonable time, any information that the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Department copies of any records required to be kept by the permit.
- b. Upon cause shown by the permittee the records, reports, or information, or a particular portion thereof, claimed by the permittee to be confidential shall be submitted to the Department in accordance with the requirements of Article XXI, §2101.07.d.4. Information submitted to the

Department under a claim of confidentiality, shall be available to the US EPA and the PADEP upon request and without restriction. Upon request of the permittee the confidential information may be submitted to the USEPA and PADEP directly. Emission data or any portions of any draft, proposed, or issued permits shall not be considered confidential.

10. Modification of Section 112(b) Pollutants which are VOCs or PM₁₀ (§2103.12.f.7)

Except where precluded under the Clean Air Act or federal regulations promulgated under the Clean Air Act, if this permit limits the emissions of VOCs or PM₁₀ but does not limit the emissions of any hazardous air pollutants, the mixture of hazardous air pollutants which are VOCs or PM₁₀ can be modified so long as no permit emission limitations are violated. A log of all mixtures and changes shall be kept and reported to the Department with the next report required after each change.

11. Right to Access (§2103.12.h.2)

Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized Department and other federal, state, county, and local government representatives to:

- a. Enter upon the permittee's premises where a permitted source is located or an emissions-related activity is conducted, or where records are or should be kept under the conditions of the permit;
- b. Have access to, copy and remove, at reasonable times, any records that must be kept under the conditions of the permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
- d. As authorized by either Article XXI or the Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements.

12. Certification of Compliance (§2103.12.h.5,)

- a. The permittee shall submit on an annual basis, certification of compliance with all terms and conditions contained in this permit, including emission limitations, standards, or work practices. The certification of compliance shall be made consistent with General Condition III.4 above and shall include the following information at a minimum:
 - 1) The identification of each term or condition of the permit that is the basis of the certification;
 - 2) The compliance status;
 - 3) Whether any noncompliance was continuous or intermittent;
 - 4) The method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with the provisions of this permit; and
 - 5) Such other facts as the Department may require to determine the compliance status of the source.
- b. All certifications of compliance must be submitted to the Department by February 28th of each year for the time period beginning January 1st of the previous year and ending December 31st of the previous year. The first report shall be due February 28, 2015 for the time period beginning on the issuance date of this permit through December 31, 2014.

13. Record Keeping Requirements (§2103.12.j.1)

- a. The permittee shall maintain records of required monitoring information that include the following:
 - 1) The date, place as defined in the permit, and time of sampling or measurements;
 - 2) The date(s) analyses were performed;
 - 3) The company or entity that performed the analyses;
 - 4) The analytical techniques or methods used;
 - 5) The results of such analyses; and
 - 6) The operating parameters existing at the time of sampling or measurement.
- b. The permittee shall maintain and make available to the Department, upon request, records including computerized records that may be necessary to comply with the reporting and emission statements in Article XXI §2108.01.e. Such records may include records of production, fuel usage, maintenance of production or pollution control equipment or other information determined by the Department to be necessary for identification and quantification of potential and actual air contaminant emissions.

14. Retention of Records (§2103.12.j.2)

The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

15. Reporting Requirements (§2103.12.k)

- a. The permittee shall submit reports of any required monitoring at least every six (6) months. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by the Responsible Official.
- b. Prompt reporting of deviations from permit requirements is required, including those attributable to upset conditions as defined in this permit and Article XXI §2108.01.c, the probable cause of such deviations, and any corrective actions or preventive measures taken.
- c. All reports submitted to the Department shall comply with the certification requirements of General Condition III.4 above.
- d. Semiannual reports required by this permit shall be submitted to the Department as follows:
 - 1) One semiannual report is due by July 31 of each year for the time period beginning January 1 and ending June 30.
 - 2) One semiannual report is due by January 31 of each year for the time period beginning July 1 and ending December 31 of the previous year.
- e. Reports required by this Condition may be sent electronically to aqreports@achd.net.

16. Severability Requirement (§2103.12.l)

The provisions of this permit are severable, and if any provision of this permit is determined by a court of

competent jurisdiction to be invalid or unenforceable, such a determination will not affect the remaining provisions of this permit.

17. Existing Source Reactivations (§2103.13.d)

The permittee shall not reactivate any source that has been out of operation or production for a period of one year or more unless the permittee has submitted a reactivation plan request to, and received a written reactivation plan approval from, the Department. Existing source reactivations shall meet all requirements of Article XXI §2103.13.d.

18. Administrative Permit Amendment Procedures (§2103.14.b)

An administrative permit amendment may be made consistent with the procedures of Article XXI §2103.14.b and §2103.24.b. Administrative permit amendments are not authorized for any amendment precluded by the Clean Air Act or the regulations there under.

19. Revisions and Minor Permit Modification Procedures (§2103.14.c)

Sources may apply for revisions and minor permit modifications on an expedited basis in accordance with Article XXI §2103.14.c and §2103.24.a.

20. Significant Permit Modifications (§2103.14.d)

Significant permit modifications shall meet all requirements of the applicable subparts of Article XXI, Part C, including those for applications, fees, public participation, review by affected States, and review by EPA, as they apply to permit issuance and permit renewal. The approval of a significant permit modification, if the entire permit has been reopened for review, shall commence a new full five (5) year permit term. The Department shall take final action on all such permits within nine (9) months following receipt of a complete application.

21. Duty to Comply (§2103.12.f.1)

The permittee shall comply with all permit conditions and all other applicable requirements at all times. Any permit noncompliance constitutes a violation of the Clean Air Act, the Air Pollution Control Act, and Article XXI and is grounds for any and all enforcement action, including, but not limited to, permit termination, revocation and reissuance, or modification, and denial of a permit renewal application.

22. Renewals (§2103.13.b.)

Renewal of this permit is subject to the same fees and procedural requirements, including those for public participation and affected State and EPA review, that apply to initial permit issuance. The application for renewal shall be submitted at least six (6) months but not more than eighteen (18) months prior to expiration of this permit. The application shall also include submission of a supplemental compliance review as required by Article XXI §2102.01.

23. Reopenings for Cause (§2103.15, §2103.12.f.3)

a. This permit shall be reopened and reissued under any of the following circumstances:

1) Additional requirements under the Clean Air Act become applicable to a major source with a

remaining permit term of three (3) or more years. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended solely due to the failure of the Department to act on a permit renewal application in a timely fashion.

- 2) Additional requirements, including excess emissions requirements, become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into this permit.
- 3) The Department or EPA determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit.
- 4) The Administrator or the Department determines that this permit must be reissued or revoked to assure compliance with the applicable requirements.

- b. This permit may be modified; revoked, reopened, and reissued; or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes, for changes that are provided for in this permit.

24. Annual Operating Permit Administration Fee (§2103.40)

In each year during the term of this permit, on or before the last day of the month in which the application for this permit was submitted, the permittee shall submit to the Department, in addition to any other applicable administration fees, an Annual Operating Permit Administration Fee in accordance with §2103.40. by check or money order payable to the "Allegheny County Air Pollution Control Fund" in the amount specified in the fee schedule applicable at that time.

25. Other Requirements not Affected (§2104.08, §2105.02)

Compliance with the requirements of this permit shall not in any manner relieve any person from the duty to fully comply with any other applicable Federal, State, or County statute, rule, regulation, or the like, including but not limited to the odor emission standards under Article XXI §2104.04, any applicable NSPSs, NESHAPs, MACTs, or Generally Achievable Control Technology (GACT) standards now or hereafter established by the EPA, and any applicable requirements of BACT or LAER as provided by Article XXI, any condition contained in any applicable Installation or Operating Permit and/or any additional or more stringent requirements contained in an order issued to such person pursuant to Article XXI Part I.

26. Termination of Operation (§2108.01.a)

In the event that operation of any source of air contaminants is permanently terminated, the person responsible for such source shall so report, in writing, to the Department within 60 days of such termination.

27. Tests by the Department (§2108.02.d)

Notwithstanding any tests conducted pursuant to Article XXI §2108.02, the Department or another entity designated by the Department may conduct emissions testing on any source or air pollution control

equipment. At the request of the Department, the person responsible for such source or equipment shall provide adequate sampling ports, safe sampling platforms and adequate utilities for the performance of such tests.

28. Other Rights and Remedies Preserved (§2109.02.b)

Nothing in this permit shall be construed as impairing any right or remedy now existing or hereafter created in equity, common law or statutory law with respect to air pollution, nor shall any court be deprived of such jurisdiction for the reason that such air pollution constitutes a violation of this permit.

29. Enforcement and Emergency Orders (§2109.03, §2109.05)

- a. The person responsible for this source shall be subject to any and all enforcement and emergency orders issued to it by the Department in accordance with Article XXI §2109.03, §2109.04 and §2109.05.
- b. Upon request, any person aggrieved by an Enforcement Order or Emergency Order shall be granted a hearing as provided by Article XXI §2109.03.d; provided however, that an Emergency Order shall continue in full force and effect notwithstanding the pendency of any such appeal.
- c. Failure to comply with an Enforcement Order or immediately comply with an Emergency Order shall be a violation of this permit thus giving rise to the remedies provided by Article XXI §2109.02.

30. Penalties, Fines, and Interest (§2109.07.a)

A source that fails to pay any fee required under this permit when due shall pay a civil penalty of 50% of the fee amount, plus interest on the fee amount computed in accordance with Article XXI §2109.06.a.4 from the date the fee was required to be paid. In addition, the source may have this permit revoked for failure to pay any fee required.

31. Appeals (§2109.10)

In accordance with State Law and County regulations and ordinances, any person aggrieved by an order or other final action of the Department issued pursuant to Article XXI or any unsuccessful petitioner to the Administrator under Article XXI Part C, Subpart 2, shall have the right to appeal the action to the Director in accordance with the applicable County regulations and ordinances.

32. Risk Management (§2104.08, 40 CFR Part 68)

Should this stationary source, as defined in 40 CFR Part 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in Part 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by General Condition III.12 above.

33. Circumvention (§2101.14)

For purposes of determining compliance with the provisions of this permit and Article XXI, no credit shall be given to any person for any device or technique, including but not limited to the operation of any source with unnecessary amounts of air, the combining of separate sources except as specifically

permitted by Article XXI and the Department, the use of stacks exceeding Good Engineering Practice height as defined by regulations promulgated by the US EPA at 40 CFR §§51.100 and 51.110 and Subpart I, and other dispersion techniques, which without reducing the amount of air contaminants emitted, conceals or dilutes an emission of air contaminants which would otherwise violate the provisions of this Article; except that, for purposes of determining compliance with Article §2104.04 concerning odors, credit for such devices or techniques, except for the use of a masking agent, may be given.

34. Duty to Supplement and Correct Relevant Facts (§2103.12.d.2)

- a. The permittee shall provide additional information as necessary to address requirements that become applicable to the source after the date it files a complete application but prior to the Department taking action on the permit application.
- b. The permittee shall provide supplementary fact or corrected information upon becoming aware that incorrect information has been submitted or relevant facts were not submitted.
- c. Except as otherwise required by this permit and Article XXI, the Clean Air Act, or the regulations thereunder, the permittee shall submit additional information as necessary to address changes occurring at the source after the date it files a complete application but prior to the Department taking action on the permit application.
- d. The applicant shall submit information requested by the Department which is reasonably necessary to evaluate the permit application.

35. Effect (§2102.03.g.)

- a. Except as specifically otherwise provided under Article XXI, Part C, issuance of a permit pursuant to Article XXI Part B or Part C shall not in any manner relieve any person of the duty to fully comply with the requirements of this permit, Article XXI or any other provision of law, nor shall it in any manner preclude or affect the right of the Department to initiate any enforcement action whatsoever for violations of this permit or Article XXI, whether occurring before or after the issuance of such permit. Further, except as specifically otherwise provided under Article XXI Part C the issuance of a permit shall not be a defense to any nuisance action, nor shall such permit be construed as a certificate of compliance with the requirements of this permit or Article XXI.

36. Installation Permits (§2102.04.a.1.)

It shall be a violation of this permit giving rise to the remedies set forth in Article XXI Part I for any person to install, modify, replace, reconstruct, or reactivate any source or air pollution control equipment which would require an installation permit or permit modification in accordance with Article XXI Part B or Part C.

IV. SITE LEVEL TERMS AND CONDITIONS

1. Reporting of Upset Conditions (§2103.12.k.2)

The permittee shall promptly report all deviations from permit requirements, including those attributable to upset conditions as defined in Article XXI §2108.01.c, the probable cause of such deviations, and any corrective actions or preventive measures taken.

2. Visible Emissions (§2104.01.a)

Except as provided for by Article XXI §2108.01.d pertaining to a cold start, no person shall operate, or allow to be operated, any source in such manner that the opacity of visible emissions from a flue or process fugitive emissions from such source, excluding uncombined water:

- a. Equal or exceed an opacity of 20% for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or,
- b. Equal or exceed an opacity of 60% at any time.

3. Odor Emissions (§2104.04) (County-only enforceable)

No person shall operate, or allow to be operated, any source in such manner that emissions of malodorous matter from such source are perceptible beyond the property line.

4. Materials Handling (§2104.05)

The permittee shall not conduct, or allow to be conducted, any materials handling operation in such manner that emissions from such operation are visible at or beyond the property line.

5. Operation and Maintenance (§2105.03)

All air pollution control equipment required by this permit or any order under Article XXI, and all equivalent compliance techniques approved by the Department, shall be properly installed, maintained, and operated consistently with good air pollution control practice.

6. Open Burning (§2105.50)

No person shall conduct, or allow to be conducted, the open burning of any material, except where the Department has issued an Open Burning Permit to such person in accordance with Article XXI §2105.50 or where the open burning is conducted solely for the purpose of non-commercial preparation of food for human consumption, recreation, light, ornament, or provision of warmth for outside workers, and in a manner which contributes a negligible amount of air contaminants.

7. Breakdowns (§2108.01.c)

- a. In the event that any air pollution control equipment, process equipment, or other source of air contaminants breaks down in such manner as to have a substantial likelihood of causing the emission of air contaminants in violation of this permit, or of causing the emission into the open air of potentially toxic or hazardous materials, the person responsible for such equipment or source shall immediately, but in no event later than sixty (60) minutes after the commencement of

the breakdown, notify the Department of such breakdown and shall, as expeditiously as possible but in no event later than seven (7) days after the original notification, provide written notice to the Department.

- b. To the maximum extent possible, all oral and written notices required shall include all pertinent facts, including:
- 1) Identification of the specific equipment which has broken down, its location and permit number (if permitted), together with an identification of all related devices, equipment, and other sources which will be affected.
 - 2) The nature and probable cause of the breakdown.
 - 3) The expected length of time that the equipment will be inoperable or that the emissions will continue.
 - 4) Identification of the specific material(s) which are being, or are likely to be emitted, together with a statement concerning its toxic qualities, including its qualities as an irritant, and its potential for causing illness, disability, or mortality.
 - 5) The estimated quantity of each material being or likely to be emitted.
 - 6) Measures, including extra labor and equipment, taken or to be taken to minimize the length of the breakdown, the amount of air contaminants emitted, or the ambient effects of the emissions, together with an implementation schedule.
 - 7) Measures being taken to shut down or curtail the affected source(s) or the reasons why it is impossible or impractical to shut down the source(s), or any part thereof, during the breakdown.
- c. Notices required shall be updated, in writing, as needed to advise the Department of changes in the information contained therein. In addition, any changes concerning potentially toxic or hazardous emissions shall be reported immediately. All additional information requested by the Department shall be submitted as expeditiously as practicable.
- d. Unless otherwise directed by the Department, the Department shall be notified whenever the condition causing the breakdown is corrected or the equipment or other source is placed back in operation by no later than 9:00 AM on the next County business day. Within seven (7) days thereafter, written notice shall be submitted pursuant to Paragraphs a and b above.
- e. Breakdown reporting shall not apply to breakdowns of air pollution control equipment which occur during the initial startup of said equipment, provided that emissions resulting from the breakdown are of the same nature and quantity as the emissions occurring prior to startup of the air pollution control equipment.
- f. In no case shall the reporting of a breakdown prevent prosecution for any violation of this permit or Article XXI.

8. Cold Start (§2108.01.d)

In the event of a cold start on any fuel-burning or combustion equipment, except stationary internal combustion engines and combustion turbines used by utilities to meet peak load demands, the person responsible for such equipment shall report in writing to the Department the intent to perform such cold start at least 24 hours prior to the planned cold start. Such report shall identify the equipment and fuel(s) involved and shall include the expected time and duration of the startup. Upon written application from the person responsible for fuel-burning or combustion equipment which is routinely used to meet peak

load demands and which is shown by experience not to be excessively emissive during a cold start, the Department may waive these requirements and may instead require periodic reports listing all cold starts which occurred during the report period. The Department shall make such waiver in writing, specifying such terms and conditions as are appropriate to achieve the purposes of Article XXI. Such waiver may be terminated by the Department at any time by written notice to the applicant.

9. Monitoring of Malodorous Matter Beyond Facility Boundaries (§2104.04)

The permittee shall take all reasonable action as may be necessary to prevent malodorous matter from becoming perceptible beyond facility boundaries. Further, the permittee shall perform such observations as may be deemed necessary along facility boundaries to insure that malodorous matter beyond the facility boundary in accordance with Article XXI §2107.13 is not perceptible and record all findings and corrective action measures taken.

10. Orders (§2108.01.f)

In addition to meeting the requirements of General Condition III.26 above and Site Level Condition IV.7 above, Site Level Condition IV.8 above and Site Level Condition IV.9 above, the person responsible for any source shall, upon order by the Department, report to the Department such information as the Department may require in order to assess the actual and potential contribution of the source to air quality. The order shall specify a reasonable time in which to make such a report.

11. Violations (§2108.01.g)

The failure to submit any report or update thereof required by General Condition III.26 above, Site Level Condition IV.7 above, Site Level Condition IV.8 above, Site Level Condition IV.9 above and Site Level Condition IV.10 above, within the time specified, the knowing submission of false information, or the willful failure to submit a complete report shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02.

12. Emissions Testing (§2108.02)

- a. **Orders.** The person responsible for any source shall, upon order by the Department, conduct, or cause to be conducted, such emissions tests as specified by the Department within such reasonable time as is specified by the Department. Test results shall be submitted in writing to the Department within 20 days after completion of the tests, unless a different period is specified in the Department's order. Emissions testing shall comply with all applicable requirements of Article XXI §2108.02.e.
- b. **Tests by the Department :** Notwithstanding any tests conducted pursuant to this permit, the Department or another entity designated by the Department may conduct emissions testing on any source or air pollution control equipment. At the request of the Department, the permittee shall provide adequate sampling ports, safe sampling platforms and adequate utilities for the performance of such tests.
- c. **Testing Requirements.** No later than 45 days prior to conducting any tests required by this permit, the person responsible for the affected source shall submit for the Department's approval a written test protocol explaining the intended testing plan, including any deviations from standard testing procedures, the proposed operating conditions of the source during the test, calibration data for specific test equipment and a demonstration that the tests will be conducted under the

direct supervision of persons qualified by training and experience satisfactory to the Department to conduct such tests. In addition, at least 30 days prior to conducting such tests, the person responsible shall notify the Department in writing of the time(s) and date(s) on which the tests will be conducted and shall allow Department personnel to observe such tests, record data, provide pre-weighed filters, analyze samples in a County laboratory and to take samples for independent analysis. Test results shall be comprehensively and accurately reported in the units of measurement specified by the applicable emission limitations of this permit.

- d. Test methods and procedures shall conform to the applicable reference method set forth in this permit or Article XXI Part G, or where those methods are not applicable, to an alternative sampling and testing procedure approved by the Department consistent with Article XXI §2108.02.e.2.
- e. **Violations:** The failure to perform tests as required by this permit or an order of the Department, the failure to submit test results within the time specified, the knowing submission of false information, the willful failure to submit complete results, or the refusal to allow the Department, upon presentation of a search warrant, to conduct tests, shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02.

13. Abrasive Blasting (§2105.51)

- a. Except where such blasting is a part of a process requiring an operating permit, no person shall conduct or allow to be conducted, abrasive blasting or power tool cleaning of any surface, structure, or part thereof, which has a total area greater than 1,000 square feet unless such abrasive blasting complies with all applicable requirements of Article XXI §2105.51.
- b. In addition to complying with all applicable provisions of §2105.51, no person shall conduct, or allow to be conducted, abrasive blasting of any surface unless such abrasive blasting also complies with all other applicable requirements of Article XXI unless such requirements are specifically addressed by §2105.51.

14. Asbestos Abatement (§2105.62, §2105.63)

In the event of removal, encasement, or encapsulation of Asbestos-Containing Material (ACM) at a facility or in the event of the demolition of any facility, the permittee shall comply with all applicable provisions of Article XXI §2105.62 and §2105.63.

15. Fugitive Emissions (§2105.49)

The person responsible for a source of fugitive emissions, in addition to complying with all other applicable provisions of this permit shall take all reasonable actions to prevent fugitive air contaminants from becoming airborne. Such actions may include, but are not limited to:

- a. The use of asphalt, oil, water, or suitable chemicals for dust control;
- b. The paving and maintenance of roadways, parking lots and the like;
- c. The prompt removal of earth or other material which has been deposited by leaks from transport, erosion or other means;
- d. The adoption of work or other practices to minimize emissions;
- e. Enclosure of the source; and
- f. The proper hooding, venting, and collection of fugitive emissions.

16. Curtailment Plans (§2106.02)

The permittee shall upon written request of the Department, submit a source curtailment plan, consistent with good industrial practice and safe operating procedures, designed to reduce emissions of air contaminants during air pollution episodes. Such plans shall meet the requirements of Article XXI §2106.02.

17. New Source Performance Standards (§2105.05)

- a. It shall be a violation of this permit giving rise to the remedies provided by §2109.02 of Article XXI for any person to operate, or allow to be operated, any source in a manner that does not comply with all requirements of any applicable NSPS now or hereafter established by the EPA, except if such person has obtained from EPA a waiver pursuant to Section 111 or Section 129 of the Clean Air Act or is otherwise lawfully temporarily relieved of the duty to comply with such requirements.
- b. Any person who operates, or allows to be operated, any source subject to any NSPS shall conduct, or cause to be conducted, such tests, measurements, monitoring and the like as is required by such standard. All notices, reports, test results and the like as are required by such standard shall be submitted to the Department in the manner and time specified by such standard. All information, data and the like which is required to be maintained by such standard shall be made available to the Department upon request for inspection and copying.

18. Diesel Powered Mobile Vehicle Idling (§2105.92)

- a. **Applicability:** This Section applies to the operation of every diesel powered motor vehicle, except school buses:
- b. **General:**
 - 1) No Driver shall cause or allow the engine of any heavy duty diesel powered motor vehicle subject to this section to idle prior to, during layover between, at the destination of or at the conclusion of any trip or route for more than five (5) consecutive minutes, except under conditions described in subsection c, below.
 - 2) No Driver shall cause or allow the engine of any heavy duty diesel powered motor vehicle subject to this section to be accelerated while idling, unless such action is taken in order to operate vehicle mounted accessory or service equipment.
- c. **Exemptions.** This section does not apply for the period or periods during which idling is necessary for:
 - 1) **Traffic Conditions.**
 - a) For traffic conditions over which the driver has no control;
 - b) For an official traffic control device or signal; or
 - c) At the direction of a uniformed police officer or one of those persons authorized to direct traffic by the Vehicle Code, 67 Pa. Code §101.2
 - 2) **Boarding and Discharging Passengers.**

- a) When vehicles intended for commercial passenger transportation are boarding or discharging passengers; or
 - b) When vehicles intended for transporting people with disabilities are boarding or discharging passengers.
- 3) **Queuing.** When a vehicle, situated in a queue with other vehicles, must intermittently move forward to perform work or a service, and when shutting the vehicle engine off would impede the progress of the queue and is impracticable.
- 4) **Turbo-Charged Diesel Engine Cool Down or Warm Up.** When the manufacturer's specifications require more time than the five minute limitation in §2105.92.b.1, above, to cool or warm up a turbo-charged diesel engine.
- 5) **Cold/Hot Weather.**
- a) If the outside temperature is less than 40° F, then idling is allowed for a period or periods aggregating not more than 20 minutes in any 60 minute period; or
 - b) If the outside temperature is greater than 75° F and a vehicle is equipped with air conditioning, then idling is allowed for a period or periods aggregating not more than 20 minutes in any 60 minute period.
 - c) Notwithstanding subparagraphs a and b, in order to supply heat and air conditioning necessary for the comfort of the passengers, a vehicle intended for commercial passenger transportation may idle for up to 10 minutes prior to passenger boarding and anytime passengers are onboard.
 - d) The Department may, upon request of an owner or manager of a bus terminal, approve alternate limits for warm-up of buses stored outdoors at the terminal when the temperature is below 40° F. Such plan shall include enforceable time limits that minimize bus idling.
- 6) **Sleeping.** When idling is necessary to power a heater, air conditioner or any ancillary equipment during sleeping and resting in a truck or sleeper berth.
- 7) **Safety and Emergencies.**
- a) To verify that the vehicle is in safe operating condition and equipped as required by all provisions of law, and all equipment is in good working order, either as part of the driver's daily vehicle inspection, or as otherwise needed;
 - b) To operate defrosters, or other equipment to ensure the safe operation of the vehicle, or as otherwise required by federal or state motor carrier safety regulations, or other requirements; or
 - c) Use of vehicle as an emergency vehicle.
- 8) **Operability and Maintenance**
- a) To provide power for vehicle mounted accessory or service equipment; or
 - b) When being operated by a mechanic for testing, servicing, repairing or diagnostic purposes.

19. In-Use Off-Road Diesel Powered Mobile Equipment Engine Idling (§2105.93)

- a. **Applicability:** This Section applies to any person or business that owns or operates any diesel-fueled off-road compression ignition vehicle engine with maximum power of 25 horsepower (hp) or greater that is used to provide motive power in any vehicle that:

- 1) Is not designed to or cannot be registered and driven safely on-road; and
- 2) Is not an implement of husbandry.

Vehicles with engines subject to this Section are used in construction, mining, rental, landscaping, recycling, landfilling, manufacturing, warehousing, composting, airport ground support equipment, industrial, and other operations. This Section does not apply to locomotives, commercial marine vessels, marine engines, recreational vehicles, or military equipment. This Section also does not apply to stationary or portable equipment, or equipment or vehicles used in agricultural operations, or equipment at ports or intermodal railyards. Off-road diesel vehicles owned and operated by an individual for personal, noncommercial purposes are exempt from the provisions of this Section

Permittees subject to this Condition shall comply with requirements of §2105.93.a through §2105.93.h of Article XXI

b. **General:**

- 1) No vehicles or engines subject to this Section may idle for more than five consecutive minutes, except as permitted under Subsection c;
- 2) Idling of a vehicle that is owned by a rental company is the responsibility of the renter or lessee; and
- 3) Equipment subject to this Subsection must be located away from sensitive receptors, such as building fresh air intakes, to the extent possible.

c. **Exemptions:** The idling limit does not apply to:

- 1) Idling necessary to ensure the safe operation of the equipment, including idling to verify that the equipment is in safe operating condition and equipped as required by all provisions of law, and all equipment is in good working order, either as part of the daily equipment inspection, or as otherwise needed.
- 2) Idling required to bring the machine system to operating temperature;
- 3) Idling for testing, servicing, repairing, or diagnostic purposes;
- 4) Engine operation necessary to accomplish work for which the equipment was designed (such as operating a crane);
- 5) Idling necessary for the operator's physical well being while accomplishing such work;
- 6) Idling when queuing, i.e., when an off-road vehicle, situated in a queue of other vehicles, must intermittently move forward to perform work or a service, and when shutting the vehicle engine off would impede the progress of the queue and be impractical. This does not include the time an operator may wait motionless in line in anticipation of the start of a workday or opening of a location where work or a service will be performed; and
- 7) Idling by any vehicle being used in an emergency or public safety capacity.

V. EMISSION UNIT LEVEL TERMS AND CONDITIONS

A. Boiler (B-001 and B-002)

Process Description:	Boilers
Facility ID:	B-001 and B-002
Maximum Design Rate/Units:	31.93 MMBtu/hr, each
Fuel:	Natural Gas and No. 2 Fuel Oil
Control Device(s):	None

1. Restrictions:

- a. Only pipeline-quality natural gas shall be combusted in the boilers except during periods of gas curtailment, gas supply emergencies or periodic testing. During such events, No. 2 fuel oil meeting the specification defined by ASTM D396-02, "Standard Specifications for Fuel Oils," may be used in lieu of natural gas. (§2103.12.a.2.B)
- b. Heat input to Boilers B001 and B-002 shall be limited to 31.93 MMBtu/hr for each boiler based on the higher heating value of the fuel being combusted. (§2103.12.a.2.B)
- c. Combustion of No. 2 fuel oil shall be limited to 500 hours per rolling 12-month period for each boiler. (§2103.12.a.2.B)
- d. Periodic testing of the boilers, using No. 2 fuel oil, shall not exceed 48 hours during any calendar year, for each boiler, for all testing. (§2103.12.a.2.B; §63.11195(e))
- e. Particulate matter emissions, when using natural gas, shall not exceed 0.008 lb/MMBtu for each boiler. (§2104.02.a.1)
- f. Particulate matter emissions, when using No. 2 fuel oil shall not exceed 0.015 lb/MMBtu for each boiler. (§2104.02.a.1, (§2103.12.a.2.B)
- g. The No. 2 fuel oil shall have a sulfur content equal to or less than 0.5% by weight. (§2103.12.a.2.B)
- h. After January 1, 2016, the No. 2 fuel oil shall have a sulfur content equal to or less than 0.05% by weight. (§2103.12.a.2.D)
- i. Visible emissions shall not exceed: (§2104.01.a.2)
 - 1) An opacity of 20% for a period or periods aggregating more than three (3) minutes in any 60 minute period (§2104.01.a.1); or
 - 2) An opacity of 60% at any time. (§2104.01.a.2)
- j. Boilers B001 and B-002 shall not exceed the emissions limitations in Table V-A-1 below. (§2103.12.a.2.B, §2103.20.b.4, §2104.02.a.1).

TABLE V-A-1: B-001 and B-002 Emission Limits

Pollutant	Hourly Emission Limit Natural Gas Combined Boilers (lbs/hr)	Hourly Emission Limit No. 2 Fuel Oil Combined Boilers (lbs/hr)	Annual Emission Limit Combined Fuels & Combined Boilers (tons/year)^{1, 2}
PM	0.51	0.96	2.35
PM ₁₀	0.51	0.96	2.35
PM _{2.5}	0.51	0.96	2.35
SO ₂	0.041	37.72	9.601
NO _x	6.90	10.63	31.157
CO	5.796	2.66	24.610
VOCs	0.38	0.181	1.615

* A year is defined as any consecutive 12-month period.

2. Testing Requirements

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.12 above entitled "Emissions Testing." (§2103.12.h.1, §2108.02)

3. Monitoring Requirements :

The permittee shall install and maintain the necessary meter(s) to determine and to record the amount of natural gas usage. (§2103.12.a.2.B; §2103.12.i)

4. Record Keeping Requirements

- a. The permittee shall keep and maintain the following data for each boiler: (§2103.12.j)
 - 1) Fuel consumption, both natural gas and No.2 fuel oil (monthly, and 12-month) (§2103.12.j);
 - 2) Total operating hours (monthly and 12-month) (§2103.12.j);
 - 3) Cold starts (date, time, duration and reason for each occurrence) (§2103.12.j); and
 - 4) Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment. (§2103.12.j).
- b. The permittee shall maintain records of the fuel supplier's certification with each shipment of No. 2 fuel oil to insure compliance with Condition V.A.1.g above. (§2103.12.j)
- c. Records of the name of natural gas supplier shall be kept to demonstrate compliance with all applicable requirements of this permit. (§2103.12.j)
- d. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. (§2103.12.j)

- e. Permittee shall maintain all records for at least five (5) years. (2103.12.j)

5. Reporting Requirements:

- a. The permittee shall submit semi-annual reports to the Department in accordance with General Condition III.15 above. (§2103.12.k)
- b. The annual report shall include the following information: (§2103.12.k)
- 1) Calendar dates covered in the reporting period; (§2103.12.k)
 - 2) Total natural gas consumed (monthly, and 12-month); (§2103.12.k)
 - 3) Total No. 2 fuel oil consumed (monthly, and 12-month); (§2103.12.k)
 - 4) Records of all cold starts; (§2103.12.k)
 - 5) Reasons for any noncompliance with the emission standards; (§2103.12.k) and
 - 6) A certified statement signed by the responsible official that the records of fuel consumption represent all of the fuel combusted during the month. (§2103.12.k)
- c. The permittee shall submit copies of all requests, reports, applications, submittals, and other communications to the Department. (§2103.12.k)

6. Work Practice Standards:

Boilers B-001 and B002 shall be: (§2103.12.a.2.B)

- 1) Operated in such a manner as not to cause air pollution; (§2103.12.a.2.B)
- 2) Operated and maintained in a manner consistent with good operating and maintenance practices; (§2103.12.a.2.B) and,
- 3) Operated and maintained in accordance with the manufacturer's specifications and the applicable terms and conditions of this permit. (§2103.12.a.2.B)

7. Additional Requirements

None except as provided elsewhere.

B. Boiler (B-003)

Process Description:	Boiler
Facility ID:	B003
Maximum Design Rate/Units:	19.09 MMBtu/hr
Fuel:	Natural Gas and No. 2 Fuel Oil
Control Device(s):	None

1. Restrictions:

- a. Only pipeline-quality natural gas shall be combusted in the boiler except during periods of gas curtailment, gas supply emergencies or periodic testing. During such events, No. 2 fuel oil meeting the specification defined by ASTM D396-02, "Standard Specifications for Fuel Oils," may be used in lieu of natural gas. (§2102.04.b.6, §2103.12.a.2.B)
- b. Heat input to Boiler B-001 shall be limited to 19.09 MMBtu/hr based on the higher heating value of the fuel being combusted. (§2103.12.a.2.B)
- c. Combustion of No. 2 fuel oil shall be limited to 500 hours per rolling 12-month period. (§2103.12.a.2.B)
- d. Periodic testing of the boiler, using No. 2 fuel oil, shall not exceed 48 hours during any calendar year for all testing. (§2103.12.a.2.B; §63.11195(e))
- e. Particulate matter emissions, when using natural gas, shall not exceed 0.008 lb/MMBtu. (§2104.02.a.1)
- f. Particulate matter emissions, when using No. 2 fuel oil shall not exceed 0.015 lb/MMBtu. (§2104.02.a.1, §2103.12.a.2.B)
- g. The No. 2 fuel oil shall have a sulfur content equal to or less than 0.5% by weight. (§2103.12.a.2.B)
- h. After January 1, 2016, the No. 2 fuel oil shall have a sulfur content equal to or less than 0.05% by weight. (§2103.12.a.2.D)
- i. Visible emissions shall not exceed: (§2104.01.a.2.B)
 - 1) An opacity of 20% for a period or periods aggregating more than three (3) minutes in any 60 minute period (§2104.01.a.1); (§2104.01.a.2.B) or,
 - 2) An opacity of 60% at any time. (§2104.01.a.2.B)
- j. Boiler B-003 shall not exceed the emissions limitations in Table V-B-1 below. (§2103.12.a.2.B, §2103.20.b.4, §2104.02.a.1).

TABLE V-B-1: B-003 Emission Limits

Pollutant	Hourly Emission Limit Natural Gas (lbs/hr)	Hourly Emission Limit No. 2 Fuel Oil (lbs/hr)	Annual Emission Limit Combined Fuels (tons/year)^{1,2}
PM	0.153	0.29	0.703
PM ₁₀	0.153	0.29	0.703
PM _{2.5}	0.153	0.29	0.703
SO ₂	0.012	11.27	2.87
NO _x	2.07	3.174	9.340
CO	1.74	0.74	7.375
VOCs	0.114	0.54	0.484

* A year is defined as any consecutive 12-month period.

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.12 above entitled "Emissions Testing." (§2103.12.h.1, §2108.02)

3. Monitoring Requirements :

The permittee shall install and maintain the necessary meter(s) to determine and to record the amount of natural gas usage. (§2103.12.a.2.B; §2103.12.i)

4. Record Keeping Requirements

- a. The permittee shall keep and maintain the following data for the boiler: (§2103.12.j)
 - 1) Fuel consumption, both natural gas and No. 2 fuel oil (monthly, and 12-month) (§2103.12.j);
 - 2) Total operating hours (monthly and 12-month) (§2103.12.j);
 - 3) Cold starts (date, time, duration and reason for each occurrence) (§2103.12.j); and
 - 4) Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment. (§2103.12.j).
- b. The permittee shall maintain records of the fuel supplier's certification with each shipment of No.2 fuel oil to insure compliance with Condition **Error! Reference source not found..** (§2103.12.j)
- c. Records of the name of natural gas supplier shall be kept to demonstrate compliance with all applicable requirements of this permit. (§2103.12.j)
- d. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. (§2103.12.j)

- e. Permittee shall maintain all records for at least five (5) years. (2103.12.j)

5. Reporting Requirements:

- a. The permittee shall submit semi-annual reports to the Department in accordance with General Condition III.15 above. (§2103.12.k)
- b. The annual report shall include the following information: (§2103.12.k)
- 1) Calendar dates covered in the reporting period; (§2103.12.k)
 - 2) Total natural gas consumed (monthly, and 12-month); (§2103.12.k)
 - 3) Total No. 2 fuel oil consumed(monthly, and 12-month) ; (§2103.12.k)
 - 4) Records of all cold starts; (§2103.12.k)
 - 5) Reasons for any noncompliance with the emission standards; (§2103.12.k) and
 - 6) A certified statement signed by the responsible official that the records of fuel consumption represent all of the fuel combusted during the month. (§2103.12.k)
- c. The permittee shall submit copies of all requests, reports, applications, submittals, and other communications to the Department. (§2103.12.k)

6. Work Practice Standards:

Boiler B-003 shall be: (§2103.12.a.2.B)

- 1) Operated in such a manner as not to cause air pollution; (§2103.12.a.2.B)
- 2) Operated and maintained in a manner consistent with good operating and maintenance practices; and, (§2103.12.a.2.B)
- 3) Operated and maintained in accordance with the manufacturer's specifications and the applicable terms and conditions of this permit. (§2103.12.a.2.B)

7. Additional Requirements

None except as provided elsewhere.

C. Emergency Generator (EG-007)

Process Description:	Cummins Emergency Generator
Facility ID:	EG-007
Maximum Design Rate/Units:	600 KW (804 hp)
Fuel:	Diesel Fuel
Control Device(s):	None

1. Restrictions:

- a. The operation of the emergency generator shall be limited to four hundred (400) hours per twelve (12) consecutive month period during those times when power supplied by a public utility is unavailable. (§2102.04.b.6)
- b. The permittee shall only combust or allow to be combusted diesel fuel that meets the following requirements: (§60.4207(b), §2103.20.b.4; §80.510(b), §2105.03)
 - 1) Sulfur content no higher than 0.0015% sulfur content by weight; (§60.4207(b), §2103.20.b.4; §80.510(b), §2103.12.a.2.D; §2105.03)
 - 2) Cetane index equal to 40 minimum or aromatic content equal to 35% volume maximum. (§60.4207(b), §2103.20.b.4; §80.510(b), §2103.12.a.2.D; §2105.03)
- c. The permittee shall operate and maintain the emergency generator according to the manufacturer's specifications. The manufacturer's operation and maintenance manuals shall be kept on site at all times. ((§2103.12.a.2.D, §2105.03, §60.4211(a))
- d. The permittee shall change only those emission-related settings that are permitted by the manufacturer. ((§2103.12.a.2.D, §60.4211(a))
- e. The emergency generator may be operated for the purpose of maintenance check and readiness testing, provided that the tests are recommended by the Federal, State County, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing is limited to 100 hours per year. ((§2103.12.a.2.D, §60.4211(e))
- f. The permittee may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. ((§2103.12.a.2.D, §60.4211(e))
- g. The emergency generator shall not cause the exceedance of the following national ambient air quality standards for nitrogen oxides: (§2103.12.a.2.D, 40 CFR §50.11)
 - 1) The primary annual standard of 53 parts per billion (ppb); (§2103.12.a.2.D, 40 CFR §50.11)
 - 2) The primary 1-hour standard of 100 ppb; and, (§2103.12.a.2.D, 40 CFR §50.11)
 - 3) The secondary standard of 0.053 parts per million (ppm) annual arithmetic mean concentration. (§2103.12.a.2.D, 40 CFR §50.11)
- h. Emissions from the Emergency Generator (EG-007) shall not exceed the emissions limitations in Table V-C-1 below: §2103.12.a.2.D, §2103.12.a.2.D, §2104.02.a.1, §60.4205(b))

TABLE V-C-1: Emergency Generator Emissions Limits

Pollutant	Hourly Emissions (lb/hr)	Yearly Emissions (tons/yr)¹
PM	0.65	0.16
PM ₁₀	0.65	0.16
PM _{2.5}	0.65	0.16
SO ₂	3.74	0.94
NO _x	14.05	3.51
CO	5.09	1.27
VOCs	0.65	0.16
CH ₂ O	0.30	0.06

¹ A year is defined as any consecutive 12-month period.

² 0.0 is used when the calculated emissions default to zero (0) at two (2) decimal places.

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.12 above entitled "Emissions Testing." (§2103.12.h.1, §2108.02)

3. Monitoring Requirements :

- a. The permittee shall install, on the emergency generator, a non-resettable hour meter. (§2103.12.a.2.D, §2103.12.i, §60.4209(a))
- b. Compliance with the diesel fuel sulfur limitations in Condition V.C.1.b above shall be demonstrated by the certification of analysis from the fuel supplier. (§2103.12.a.2.D, §2103.12.i)

4. Record Keeping Requirements

- a. The permittee shall keep and maintain the following data for each generator: (§2103.12.j)
 - 1) Fuel consumption (monthly, and 12-month), type of fuel consumed and supplier's certifications submitted representing all of the fuel combusted during the month; (§2103.12.j)
 - 2) Cold starts (date, time and duration of each occurrence); (§2103.12.j)
 - 3) Total operating hours (hours/day, monthly and 12-month) as recorded by the non-resettable hour meter(s) required under Condition V.C.3.a above; (§2103.12.j)
 - 4) Total operating hours (hours/day, monthly and 12-month) under non-emergency conditions under Condition V.C.1.f above; (§2103.12.j)
 - 5) Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment; (§2103.12.j)
 - 6) Results of any testing conducted under Condition V.C.2 above; (§2103.12.j) and

- 7) Records of all manufacturer's emission-related written instructions, emissions certifications and emission specifications for each generator shall be retained on site. (§2103.12.j)
- b. Records of fuel supplier certifications used to demonstrate compliance with the sulfur limits of this permit shall be maintained per shipment and include the following information: (§2103.12.j)
 - 1) The name of the fuel supplier; (§2103.12.j)
 - 2) A statement from the fuel supplier that the fuel complies with ASTM D975 "Standard Specification for Diesel Fuel Oils"; (§2103.12.j)
 - 3) The sulfur content of the fuel; (§2103.12.j) and
 - 4) The heating value of the fuel. (§2103.12.j)
- c. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. (§2103.12.j)
- d. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. (§2103.12.j.2)

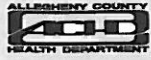
5. Reporting Requirements:

- a. The permittee shall report the following information to the Department semi-annually in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: (§2103.12.k)
 - 1) Monthly and 12-month data required to be recorded by Condition V.C.4.a above; (§2103.12.k)
 - 2) Cold start information required to be recorded by Condition V.C.4.a.2) above; (§2103.12.k)
 - 3) Non-compliance information required to be recorded by Condition V.C.4.c above; (§2103.12.k) and
 - 4) Diesel fuel certifications and a statement from the permittee that the record of fuel supplier certifications represents all the diesel fuel used during the reporting period. (§2103.12.k)
- b. Until terminated by written notice from the Department, the requirement for the permittee to report cold starts 24 hours in advance in accordance with §2108.01.d of Article XXI and Condition IV.8 above is waived and the permittee may report all cold starts in accordance with Condition V.C.5.a above. (§2103.12.k)
- c. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.7 above if appropriate. (§2103.12.k)

6. Work Practice Standards:

The emergency generator shall be: (§2103.12.a.2.D)

- 1) Operated in such a manner as not to cause air pollution. (§2103.12.a.2.D)
- 2) Operated and maintained in a manner consistent with good operating and maintenance practices. (§2103.12.a.2.D)
- 3) Operated and maintained in accordance with manufacturer's specifications and the applicable terms and conditions of this permit. (§2103.12.a.2.D)



**EMISSION UNIT LEVEL
TERMS AND CONDITIONS**

**Veterans Affairs Medical Center
Oakland Facility
Operating Permit #0276**

7. Additional Requirements

None except as provided elsewhere.

D. Emergency Generator (EG-008)

Facility ID: EG-008
Manufacturer/Model: Caterpillar/C175-16
Max. Design Rate: 2850 kW (3,763 hp)
Fuel Consumption: 210.7 gal/hr
Primary Fuel: Diesel Fuel
Control Device(s): Catalytic oxidizer

1. Restrictions

- a. The operation of the emergency generator shall be limited to four hundred (400) hours per twelve (12) consecutive month period during those times when power supplied by a public utility is unavailable. (§2103.12.a.2.D, IP 0276-I002)
- b. The catalytic oxidizer shall be installed prior to operation of the emergency generator. (§2103.12.a.2.D, IP 0276-I002)
- c. The permittee shall only combust or allow to be combusted diesel fuel that meets the following requirements: (§60.4207(b), §2103.20.b.4; §80.510(b), §2103.12.a.2.D; §2105.03, IP 0276-I002)
 - 1) Sulfur content no higher than 0.0015% sulfur content by weight; (§60.4207(b), §2103.20.b.4; §80.510(b), §2103.12.a.2.D; §2105.03, IP 0276-I002)
 - 2) Cetane index equal to 40 minimum or aromatic content equal to 35% volume maximum. (§60.4207(b), §2103.20.b.4; §80.510(b), §2103.12.a.2.D; §2105.03, IP 0276-I002)
- d. The permittee shall operate and maintain the emergency generator according to the manufacturer's specifications. The manufacturer's operation and maintenance manuals shall be kept on site at all times. ((§2103.12.a.2.D, §2105.03, §60.4211(a), IP 0276-I002)
- e. The permittee shall change only those emission-related settings that are permitted by the manufacturer. ((§2103.12.a.2.D, §60.4211(a), IP 0276-I002)
- f. The emergency generator may be operated for the purpose of maintenance check and readiness testing, provided that the tests are recommended by the Federal, State, County, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing is limited to 100 hours per year. ((§2103.12.a.2.D, §60.4211(e), IP 0276-I002)
- g. The permittee may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. ((§2103.12.a.2.D, §60.4211(e), IP 0276-I002)
- h. The emergency generator shall not cause the exceedance of the following national ambient air quality standards for nitrogen oxides: (§2103.12.a.2.D, 40 CFR §50.11, IP 0276-I002)
 - 1) The primary annual standard of 53 parts per billion (ppb); (§2103.12.a.2.D, 40 CFR §50.11, IP 0276-I002)

- 2) The primary 1-hour standard of 100 ppb; and, (§2103.12.a.2.D, 40 CFR §50.11, IP 0276-I002)
 - 3) The secondary standard of 0.053 parts per million (ppm) annual arithmetic mean concentration. (§2103.12.a.2.D, 40 CFR §50.11, IP 0276-I002)
- i. Emissions from the Emergency Generator (EG-008) shall not exceed the emissions limitations in Table V-D-1 below: (§2103.12.a.2.D, §2104.02.a.1, §60.4205(b), IP 0276-I002)

TABLE V-D-1: Emergency Generator Emission Limits

Pollutant	Hourly Emissions (lb/hr)	Yearly Emissions (tons/yr)¹
PM	0.33	0.07
PM ₁₀	0.33	0.07
PM _{2.5}	0.33	0.07
SO ₂	7.71	1.54
NO _x	49.55	9.91
CO	0.621	0.12
VOCs	0.517	0.103
CH ₂ O	0.034	0.0068

¹ A year is defined as any 12 consecutive months.

2. Testing Requirements

- a. Emergency generator emissions testing shall be performed, once every five (5) years, in accordance with the Site Level Condition IV.12 above and §2108.02 for "Emissions Testing Requirements". (§2108.02, IP 0276-I002)
- b. The permittee shall test the emergency generator for NO_x, CO and VOCs emissions (Method 7E, Method 10 and Method 25A and 18): (§2108.02, IP 0276-I002)
- c. The permittee shall conduct each performance test according to the following conditions: (§2108.02, IP 0276-I002)
 - 1) Each performance test must be conducted within 10% of 100% peak (or the highest achievable) load; (§2108.02, IP 0276-I002)
 - 2) Each performance test shall consist of three (3) separate test runs; and (§2108.02, IP 0276-I002)
 - 3) Each test run shall last at least an hour. (§2108.02, IP 0276-I002)
- d. All stack test report(s) shall be submitted to the Department within 60 days after the completion of the stack testing and shall include, at a minimum, the following information for each emission tested: (§2108.02, IP 0276-I002)
 - 1) Exhaust flow rates for the emergency generator; (§2108.02, IP 0276-I002)

- 2) Exhaust emissions for the emergency generator in: (§2108.02, IP 0276-I002)
 - a) Pounds per MMBtu; (§2108.02, IP 0276-I002)
 - b) Pounds per hour; and (§2108.02, IP 0276-I002)
 - c) Tons per year. (§2108.02, IP 0276-I002)
 - 3) Exhaust temperature of the emergency generator; (§2108.02, IP 0276-I002)
 - 4) The amount of diesel fuel burned by the emergency generator during the test; and (§2108.02, IP 0276-I002)
 - 5) Btu content of the diesel fuel. (§2108.02, IP 0276-I002)
- e. The Department reserves the right to require additional emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.12 above entitled "Emissions Testing." (§2103.12.h.1, §2108.02)

3. Monitoring Requirements

- a. The permittee shall install, on the emergency generator, a non-resettable hour meter prior to startup. (§2103.12.i, §60.4209(a), IP 0276-I002)
- b. Compliance with the diesel fuel sulfur limitations in Condition V.D.1 above shall be demonstrated by the certification of analysis from the fuel supplier. (§2103.12.i, IP 0276-I002)

4. Record Keeping Requirements

- a. The permittee shall keep and maintain the following data for the emergency generator: (§2103.12.j, IP 0276-I002)
 - 1) Fuel consumption (monthly, and 12-month), type of fuel consumed and supplier's certifications submitted representing all of the fuel combusted during the month; (§2103.12.j, IP 0276-I002)
 - 2) Cold starts (date, time and duration of each occurrence); (§2103.12.j, IP 0276-I002)
 - 3) Total operating hours (hours/day, monthly and 12-month) as recorded by the non-resettable hour meter(s) required under Condition V.D.3 above; (§2103.12.j, IP 0276-I002)
 - 4) Total operating hours (hours/day, monthly and 12-month) under non-emergency conditions under Condition V.D.1.f above; (§2103.12.j, IP 0276-I002)
 - 5) Records of operation, maintenance, inspection, calibration and/or replacement of parts; (§2103.12.j, IP 0276-I002)
 - 6) Results of any testing conducted under Condition V.D.2 above; and (§2103.12.j, IP 0276-I002)
 - 7) Records of all manufacturer's emission-related written instructions, emissions certifications and emission specifications for each generator shall be retained on site. (§2103.12.j, IP 0276-I002)
- b. Records of fuel supplier certifications used to demonstrate compliance with the sulfur limits of this permit shall be maintained per shipment and include the following information: (§2103.12.j, IP 0276-I002)
 - 1) The name of the fuel supplier; (§2103.12.j, IP 0276-I002)
 - 2) A statement from the fuel supplier that the fuel complies with ASTM D975 "Standard Specification for Diesel Fuel Oils"; (§2103.12.j, IP 0276-I002)

- 3) The sulfur content of the fuel; and (§2103.12.j, IP 0276-I002)
- 4) The heating value of the fuel. (§2103.12.j, IP 0276-I002)
- c. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. (§2103.12.j, IP 0276-I002)
- d. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. (§2103.12.j.2, IP 0276-I002)

5. Reporting Requirements

- a. The permittee shall report the following information to the Department semi-annually in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: (§2103.12.k, IP 0276-I002)
 - 1) Monthly and 12-month data required to be recorded by Condition V.D.4.a above; (§2103.12.k, IP 0276-I002)
 - 2) Cold start information required to be recorded by Condition V.D.4.a.2) above; (§2103.12.k, IP 0276-I002)
 - 3) Non-compliance information required to be recorded by Condition V.D.4.b above; and (§2103.12.k, IP 0276-I002)
 - 4) Diesel fuel certifications and a statement from the permittee that the record of fuel supplier certifications represents all the diesel fuel used during the reporting period. (§2103.12.k, IP 0276-I002)
- b. Until terminated by written notice from the Department, the requirement for the permittee to report cold starts 24 hours in advance in accordance with §2108.01.d of Article XXI and Condition IV.8 above is waived and the permittee may report all cold starts in accordance with Condition V.D.5.a above. (§2103.12.k, IP 0276-I002)
- c. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.7 above if appropriate. (§2103.12.k, IP 0276-I002)

6. Work Practice Standard

The emergency generator(s) shall be properly installed, maintained, and operated consistent with manufacturer's recommendations and good engineering practices. (§2105.03, IP 0276-I002)

7. Additional Requirements

None except as provided elsewhere.

E. Emergency Generators (EG-009, EG-010, EG-011 and E-G012)

Facility ID: EG-009, EG-010, EG-011 and E-G012
Manufacturer/Model: Caterpillar 3512C
Max. Design Rate: 1,500 kW (2,206 hp)
BTU Rating: 104.8 gal/hr
Primary Fuel: Diesel Fuel
Control Device(s): Catalytic oxidizer

1. Restrictions

- a. The operation of each emergency generator shall be limited to four hundred (400) hours per twelve (12) consecutive month period during those times when power supplied by a public utility is unavailable. (§2103.12.a.2.D, IP 0276-I002)
- b. The catalytic oxidizer shall be installed prior to operation of the emergency generators. (§2103.12.a.2.D, IP 0276-I002)
- c. The permittee shall only combust or allow to be combusted diesel fuel that meets the following requirements: (§60.4207(b), §2103.20.b.4; §80.510(b), §2103.12.a.2.D, §2105.03, IP 0276-I002)
 - 1) Sulfur content no higher than 0.5% sulfur content by weight; (§60.4207(b), §2103.20.b.4; §80.510(b), §2103.12.a.2.D; §2105.03, IP 0276-I002)
 - 2) Cetane index equal to 40 minimum or aromatic content equal to 35% volume maximum. (§60.4207(b), §2103.20.b.4; §80.510(b), §2103.12.a.2.D, §2105.03, IP 0276-I002)
- d. The permittee shall operate and maintain the emergency generators according to the manufacturer's specifications. The manufacturer's operation and maintenance manuals shall be kept on site at all times. ((§2103.12.a.2.D, §2105.03, §60.4211(a), IP 0276-I002)
- e. The permittee shall change only those emission-related settings that are permitted by the manufacturer. ((§2103.12.a.2.D, §60.4211(a), IP 0276-I002)
- f. The emergency generators may be operated for the purpose of maintenance check and readiness testing, provided that the tests are recommended by the Federal, State, County, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing is limited to 100 hours per year. ((§2103.12.a.2.D, §60.4211(e), IP 0276-I002)
- g. The permittee may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. ((§2103.12.a.2.D, §60.4211(e), IP 0276-I002)
- h. The emergency generators shall not cause the exceedance of the following national ambient air quality standards for nitrogen oxides: (§2103.12.a.2.D, 40 CFR §50.11, IP 0276-I002)
 - 1) The primary annual standard of 53 parts per billion (ppb); (§2103.12.a.2.D, 40 CFR §50.11)
 - 2) The primary 1-hour standard of 100 ppb; and, (§2103.12.a.2.D, 40 CFR §50.11, IP 0276-I002)

- 3) The secondary standard of 0.053 parts per million (ppm) annual arithmetic mean concentration. (§2103.12.a.2.D, 40 CFR §50.11, IP 0276-I002)
- i. Emissions from the Emergency Generators (EG-009, EG-010, EG-011 and EG-012) shall not exceed the emissions limitations in Table V-E-1 below when the emergency generators are using 100% diesel fuel: (§2103.12.a.2.D; §2104.02.a.1; §60.4205(b), IP 0276-I002)

TABLE V-E-1: Emergency Generator Emission Limits

Pollutant	Hourly Emissions (lb/hr)	Hourly Emissions: Combined Generators	Yearly Emissions: Combined Generators (tons/yr)¹
PM	0.2	0.8	0.16
PM ₁₀	0.2	0.8	0.16
PM _{2.5}	0.2	0.8	0.16
SO ₂	4.52	18.08	3.62
NO _x	28.98	115.92	23.18
CO	0.395	1.58	0.32
VOCs	0.39	1.56	0.32
CH ₂ O	0.017	0.068	0.0136

¹ A year is defined as any 12 consecutive months.

2. Testing Requirements

- a. Emergency generator emissions testing shall be performed, once every five (5) years, in accordance with the Site Level Condition IV.12 above and §2108.02 for "Emissions Testing Requirements". (§2108.02, IP 0276-I002)
- b. The permittee shall test each emergency generator for NO_x, CO and VOCs emissions (Method 7E, Method 10 and Method 25A and 18).: (§2108.02, IP 0276-I002)
- c. The permittee shall conduct each performance test according to the following conditions: (§2108.02, IP 0276-I002)
- 1) Each test must be conducted within 10% of 100% peak (or the highest achievable) load; (§2108.02, IP 0276-I002)
 - 2) Each performance test shall consist of three (3) separate test runs; and (§2108.02, IP 0276-I002)
 - 3) Each test run shall last at least an hour. (§2108.02, IP 0276-I002)
- d. All stack test report(s) shall be submitted to the Department within 60 days after the completion of the stack testing and shall include, at a minimum, the following information for each emission tested: (§2108.02, IP 0276-I002)

- 1) Exhaust flow rates for the emergency generator; (§2108.02, IP 0276-I002)
 - 2) Exhaust emissions for the emergency generator in: (§2108.02, IP 0276-I002)
 - a) Pounds per MMBtu; (§2108.02, IP 0276-I002)
 - b) Pounds per hour; and (§2108.02, IP 0276-I002)
 - c) Tons per year. (§2108.02, IP 0276-I002)
 - 3) Exhaust temperature of the emergency generator; (§2108.02, IP 0276-I002)
 - 4) The amount of diesel fuel burned by the emergency generator during the test; and (§2108.02, IP 0276-I002)
 - 5) Btu content of the diesel fuel. (§2108.02, IP 0276-I002)
- e. The Department reserves the right to require additional emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.12 above entitled "Emissions Testing." (§2103.12.h.1, §2108.02)

3. Monitoring Requirements

- a. The permittee shall install, on the emergency generators, a non-resettable hour meter prior to startup. (§2103.12.i, §60.4209(a), IP 0276-I002)
- b. Compliance with the diesel fuel sulfur limitations in Condition V.E.1.c above shall be demonstrated by the certification of analysis from the fuel supplier. (§2103.12.i, IP 0276-I002)

4. Record Keeping Requirements

- a. The permittee shall keep and maintain the following data for each emergency generator: (§2103.12.j, IP 0276-I002)
 - 1) Fuel consumption (daily, monthly, and 12-month), type of fuel consumed and supplier's certifications submitted representing all of the fuel combusted during the month; (§2103.12.j, IP 0276-I002)
 - 2) Cold starts (date, time and duration of each occurrence); (§2103.12.j, IP 0276-I002)
 - 3) Total operating hours (hours/day, monthly and 12-month) as recorded by the non-resettable hour meter(s) required under Condition V.E.3.a above; (§2103.12.j, IP 0276-I002)
 - 4) Total operating hours (hours/day, monthly and 12-month) under non-emergency conditions under Condition V.E.1.f above; (§2103.12.j, IP 0276-I002)
 - 5) Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment; (§2103.12.j, IP 0276-I002)
 - 6) Results of any testing conducted under Condition V.E.2 above; and (§2103.12.j, IP 0276-I002)
 - 7) Records of all manufacturer's emission-related written instructions, emissions certifications and emission specifications for each generator shall be retained on site. (§2103.12.j, IP 0276-I002)
- b. Records of fuel supplier certifications used to demonstrate compliance with the sulfur limits of this permit shall be maintained per shipment and include the following information: (§2103.12.j, IP 0276-I002)
 - 1) The name of the fuel supplier; (§2103.12.j, IP 0276-I002)

- 2) A statement from the fuel supplier that the fuel complies with ASTM D975 "Standard Specification for Diesel Fuel Oils"; (§2103.12.j, IP 0276-I002)
 - 3) The sulfur content of the fuel; and (§2103.12.j, IP 0276-I002)
 - 4) The heating value of the fuel. (§2103.12.j, IP 0276-I002)
- c. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. (§2103.12.j, IP 0276-I002)
 - d. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. (§2103.12.j.2, IP 0276-I002)

5. Reporting Requirements

- a. The permittee shall report the following information to the Department semi-annually in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: (§2103.12.k, IP 0276-I002)
 - 1) Monthly and 12-month data required to be recorded by Condition V.E.4.a above; (§2103.12.k, IP 0276-I002)
 - 2) Cold start information required to be recorded by Condition V.E.4.a.2) above; (§2103.12.k, IP 0276-I002)
 - 3) Non-compliance information required to be recorded by Condition V.E.4.c above; and (§2103.12.k, IP 0276-I002)
 - 4) Diesel fuel certifications and a statement from the permittee that the record of fuel supplier certifications represents all the diesel fuel used during the reporting period. (§2103.12.k, IP 0276-I002)
- b. Until terminated by written notice from the Department, the requirement for the permittee to report cold starts 24 hours in advance in accordance with §2108.01.d of Article XXI and Condition IV.8 above is waived and the permittee may report all cold starts in accordance with Condition V.E.5.a above. (§2103.12.k, IP 0276-I002)
- c. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.7 above if appropriate. (§2103.12.k, IP 0276-I002)

6. Work Practice Standard

The emergency generator(s) shall be properly installed, maintained, and operated consistent with manufacturer's recommendations and good engineering practices. (§2105.03, IP 0276-I002)

7. Additional Requirements

None except as provided elsewhere.



**EMISSION UNIT LEVEL
TERMS AND CONDITIONS**

**Veterans Affairs Medical Center
Oakland Facility
Operating Permit #0276**

F. Emergency Generator (EG-013)

Facility ID: EG013
Manufacturer/Model: Cummins/QSX-15-G9
Max. Design Rate: 563 kW (680 hp)
BTU Rating: 31.1 gal/hr.
Primary Fuel: Diesel Fuel
Control Device(s): none

1. Restrictions

- a. The operation of the emergency generator shall be limited to four hundred (400) hours per twelve (12) consecutive month period during those times when power supplied by a public utility is unavailable. (§2103.12.a.2.D)
- b. The permittee shall only combust or allow to be combusted diesel fuel that meets the following requirements: (§60.4207(b), §2103.20.b.4; §80.510(b), §2103.12.a.2.D, §2105.03)
 - 1) Sulfur content no higher than 0.015% sulfur content by weight; (§60.4207(b), §2103.20.b.4; §80.510(b), §2103.12.a.2.D, §2105.03)
 - 2) Cetane index equal to 40 minimum or aromatic content equal to 35% volume maximum. (§60.4207(b), §2103.20.b.4; §80.510(b), §2103.12.a.2.D, §2105.03)
- c. The permittee shall operate and maintain the emergency generator according to the manufacturer's specifications. The manufacturer's operation and maintenance manuals shall be kept on site at all times. ((§2103.12.a.2.D, §2105.03, §60.4211(a))
- d. The permittee shall change only those emission-related settings that are permitted by the manufacturer. ((§2103.12.a.2.D, §60.4211(a))
- e. The emergency generator may be operated for the purpose of maintenance check and readiness testing, provided that the tests are recommended by the Federal, State County, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing is limited to 100 hours per year. ((§2103.12.a.2.D, §60.4211(e))
- f. The permittee may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. ((§2103.12.a.2.D, §60.4211(e))
- g. The emergency generator shall not cause the exceedance of the following national ambient air quality standards for nitrogen oxides: (§2103.12.a.2.D, 40 CFR §50.11)
 - 1) The primary annual standard of 53 parts per billion (ppb); (§2103.12.a.2.D, 40 CFR §50.11)
 - 2) The primary 1-hour standard of 100 ppb; and, (§2103.12.a.2.D, 40 CFR §50.11)
 - 3) The secondary standard of 0.053 parts per million (ppm) annual arithmetic mean concentration. (§2103.12.a.2.D, 40 CFR §50.11)

- h. Emissions from the Emergency Generator (EG-013) shall not exceed the emissions limitations in Table V-F-1 below: (§2103.12.a.2.D; §2104.02.a.1; §60.4205(b))

TABLE V-F-1: Emergency Generator Emission Limits

Pollutant	Hourly Emissions (lb/hr)	Yearly Emissions (tons/yr) ¹
PM	0.03	0.006
PM ₁₀	0.03	0.006
PM _{2.5}	0.03	0.006
SO ₂	1.39	0.28
NO _x	7.72	1.54
CO	0.61	0.122
VOCs	0.12	0.024
CH ₂ O	0.0056	0.0011

¹ A year is defined as any 12 consecutive months.

2. Testing Requirements

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.12 above entitled "Emissions Testing." (§2103.12.h.1, §2108.02)

3. Monitoring Requirements

- The permittee shall install, on the emergency generator, a non-resettable hour meter prior to startup. (§2103.12.i, §60.4209(a))
- Compliance with the diesel fuel sulfur limitations in Condition V.F.1.b above shall be demonstrated by the certification of analysis from the fuel supplier. (§2103.12.i)

4. Record Keeping Requirements

- The permittee shall keep and maintain the following data for each generator: (§2103.12.j)
 - Fuel consumption (monthly, and 12-month), type of fuel consumed and supplier's certifications submitted representing all of the fuel combusted during the month; (§2103.12.j)
 - Cold starts (date, time and duration of each occurrence); (§2103.12.j)
 - Total operating hours (hours/day, monthly and 12-month) as recorded by the non-resettable hour meter(s) required under Condition V.F.3.a above; (§2103.12.j)
 - Total operating hours (hours/day, monthly and 12-month) under non-emergency conditions under Condition V.F.1.f above; (§2103.12.j)
 - Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment; (§2103.12.j)
 - Results of any testing conducted under Condition V.F.2 above; and (§2103.12.j)

- 7) Records of all manufacturer's emission-related written instructions, emissions certifications and emission specifications for each generator shall be retained on site. (§2103.12.j)
- b. Records of fuel supplier certifications used to demonstrate compliance with the sulfur limits of this permit shall be maintained per shipment and include the following information: (§2103.12.j)
 - 1) The name of the fuel supplier; (§2103.12.j)
 - 2) A statement from the fuel supplier that the fuel complies with ASTM D975 "Standard Specification for Diesel Fuel Oils"; (§2103.12.j)
 - 3) The sulfur content of the fuel; and (§2103.12.j)
 - 4) The heating value of the fuel. (§2103.12.j)
- c. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. (§2103.12.j)
- d. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. (§2103.12.j.2)

5. Reporting Requirements

- a. The permittee shall report the following information to the Department semi-annually in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: (§2103.12.k)
 - 1) Monthly and 12-month data required to be recorded by Condition V.F.4.a above; (§2103.12.k)
 - 2) Cold start information required to be recorded by Condition V.F.4.a.2) above; (§2103.12.k)
 - 3) Non-compliance information required to be recorded by Condition V.F.4.c above; and (§2103.12.k)
 - 4) Diesel fuel certifications and a statement from the permittee that the record of fuel supplier certifications represents all the diesel fuel used during the reporting period. (§2103.12.k)
- b. Until terminated by written notice from the Department, the requirement for the permittee to report cold starts 24 hours in advance in accordance with §2108.01.d of Article XXI is waived and the permittee may report all cold stars in accordance with Condition V.F.5.a above. (§2103.12.k)
- c. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.7 above if appropriate. (§2103.12.k)

6. Work Practice Standard

The emergency generator(s) shall be properly installed, maintained, and operated consistent with manufacturer's recommendations and good engineering practices. (§2105.03)

7. Additional Requirements

None except as provided elsewhere.

G. Emergency Generator (EG-014)

Facility ID: EG-014
Manufacturer/Model: Cummins/DQKAB
Max. Design Rate: 2,000 kW (2,922 hp)
BTU Rating: 137.9 gal/hr.
Primary Fuel: Diesel Fuel
Control Device(s): none

1. Restrictions

- a. The operation of the emergency generator shall be limited to four hundred (400) hours per twelve (12) consecutive month period during those times when power supplied by a public utility is unavailable. (§2103.12.a.2.D)
- b. The permittee shall only combust or allow to be combusted diesel fuel that meets the following requirements: (§60.4207(b), §2103.20.b.4; §80.510(b), §2103.12.a.2.D, §2105.03)
 - 1) Sulfur content no higher than 0.0015% sulfur content by weight; (§60.4207(b), §2103.20.b.4; §80.510(b), §2103.12.a.2.D; §2105.03)
 - 2) Cetane index equal to 40 minimum or aromatic content equal to 35% volume maximum. (§60.4207(b), §2103.20.b.4; §80.510(b), §2103.12.a.2.D; §2105.03)
- c. The permittee shall operate and maintain the emergency generator according to the manufacturer's specifications. The manufacturer's operation and maintenance manuals shall be kept on site at all times. ((§2103.12.a.2.D, §2105.03, §60.4211(a))
- d. The permittee shall change only those emission-related settings that are permitted by the manufacturer. ((§2103.12.a.2.D, §60.4211(a))
- e. The emergency generator may be operated for the purpose of maintenance check and readiness testing, provided that the tests are recommended by the Federal, State County, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing is limited to 100 hours per year. ((§2103.12.a.2.D, §60.4211(e))
- f. The permittee may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. ((§2103.12.a.2.D, §60.4211(e))
- g. The emergency generator shall not cause the exceedance of the following national ambient air quality standards for nitrogen oxides: (§2103.12.a.2.D, 40 CFR §50.11)
 - 1) The primary annual standard of 53 parts per billion (ppb); (§2103.12.a.2.D)
 - 2) The primary 1-hour standard of 100 ppb; (§2103.12.a.2.D) and,
 - 3) The secondary standard of 0.053 parts per million (ppm) annual arithmetic mean concentration. (§2103.12.a.2.D)

- h. Emissions from the Emergency Generator (EG-014) shall not exceed the emissions limitations in Table V-G-1 below: (§2103.12.a.2.D; §2104.02.a.1; §60.4205(b))

TABLE V-G-1: Emergency Generator Emission Limits

Pollutant	Hourly Emissions (lb/hr)	Yearly Emissions (tons/yr)¹
PM	0.26	0.05
PM ₁₀	0.26	0.05
PM _{2.5}	0.26	0.05
SO ₂	0.64	0.13
NO _x	32.92	6.58
CO	1.35	0.27
VOCs	1.48	0.30
CH ₂ O	0.022	0.0044

¹ A year is defined as any 12 consecutive months.

2. Testing Requirements

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.12 above entitled "Emissions Testing." (§2103.12.h.1, §2108.02)

3. Monitoring Requirements

- a. The permittee shall install, on the emergency generator, a non-resettable hour meter prior to startup. (§2103.12.a.2.D, §2103.12.i, §60.4209(a))
- b. Compliance with the diesel fuel sulfur limitations in Condition V.G.1.b above shall be demonstrated by the certification of analysis from the fuel supplier. (§2103.12.a.2.D, §2103.12.i)

4. Record Keeping Requirements

- a. The permittee shall keep and maintain the following data for each generator: (§2103.12.j)
 - 1) Fuel consumption (monthly, and 12-month), type of fuel consumed and supplier's certifications submitted representing all of the fuel combusted during the month; (§2103.12.j)
 - 2) Cold starts (date, time and duration of each occurrence); (§2103.12.j)
 - 3) Total operating hours (hours/day, monthly and 12-month) as recorded by the non-resettable hour meter(s) required under Condition V.G.3.a above; (§2103.12.j)
 - 4) Total operating hours (hours/day, monthly and 12-month) under non-emergency conditions under Condition V.G.1.f above; (§2103.12.j)
 - 5) Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment; (§2103.12.j)

- 6) Results of any testing conducted under Condition V.G.2 above; (§2103.12.j) and
 - 7) Records of all manufacturer's emission-related written instructions, emissions certifications and emission specifications for each generator shall be retained on site. (§2103.12.j)
- b. Records of fuel supplier certifications used to demonstrate compliance with the sulfur limits of this permit shall be maintained per shipment and include the following information: (§2103.12.j)
- 1) The name of the fuel supplier; (§2103.12.j)
 - 2) A statement from the fuel supplier that the fuel complies with ASTM D975 "Standard Specification for Diesel Fuel Oils"; (§2103.12.j)
 - 3) The sulfur content of the fuel; (§2103.12.j) and
 - 4) The heating value of the fuel. (§2103.12.j)
- c. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. (§2103.12.j)
- d. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. (§2103.12.j)

5. Reporting Requirements

- a. The permittee shall report the following information to the Department semi-annually in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: (§2103.12.k)
- 1) Monthly and 12-month data required to be recorded by Condition V.G.4.a above; (§2103.12.k)
 - 2) Cold start information required to be recorded by Condition V.G.4.a.2) above; (§2103.12.k)
 - 3) Non-compliance information required to be recorded by Condition V.G.4.c above; (§2103.12.k) and
 - 4) Diesel fuel certifications and a statement from the permittee that the record of fuel supplier certifications represents all the diesel fuel used during the reporting period. (§2103.12.k)
- b. Until terminated by written notice from the Department, the requirement for the permittee to report cold starts 24 hours in advance in accordance with §2108.01.d of Article XXI is waived and the permittee may report all cold stars in accordance with Condition V.G.5.a above. (§2103.12.k)
- c. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.7 above if appropriate. (§2103.12.k)

6. Work Practice Standard

The emergency generator(s) shall be properly installed, maintained, and operated consistent with manufacturer's recommendations and good engineering practices. (§2105.03)

7. Additional Requirements

None except as provided elsewhere.

H. ETO Sterilizers (CO-001 and CO-002)

Facility ID: CO-001 and CO-002
Manufacturer/Model: 3M/EO Abator Model 50
Max. Design Rate: 99% emissions reduction
Consumption: 170 grams of ethylene oxide per sterilizer cycle
Control Device(s): Catalytic Oxidizer

1. Restrictions

- a. The permittee shall not operate any ethylene oxide sterilizer unless the catalytic oxidizer emission control device is in place and operating according to manufacturers specifications (§2103.12.a.2.D)
- b. The permittee shall vent all ethylene oxide emissions from each sterilization unit to the catalytic oxidizer emission control device. ((§2103.12.a.2.D, §2105.03, §60.4211(a))
- c. The catalytic oxidizer emission control device shall have a removal efficiency of at least 99% (§2103.12.a.2.D, 40 CFR §63.10390)
- d. The permittee shall sterilize full loads of items having a common aeration time, except under medically necessary circumstances. (§2103.12.a.2.D, §60.4211(e))
- e. Emissions from the Ethylene Oxide Sterilizer shall not exceed the emissions limitations in Table V-H-1 below: (§2103.12.a.2.D, §2104.02.a.1, §60.4205(b))

TABLE V-H-1: Ethylene Oxide Emission Limits

Pollutant	Hourly Emissions (lb/hr)	Yearly Emissions (tons/yr) ¹
Ethylene Oxide	0.0047	0.0021

¹ A year is defined as any 12 consecutive months.

2. Testing Requirements

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.12 above entitled "Emissions Testing." (§2103.12.h.1, §2108.02)

3. Monitoring Requirements

None except as provided elsewhere.

4. Record Keeping Requirements

- a. The permittee shall keep and maintain the following data for the ethylene oxide sterilizer and catalytic converter: (§2103.12.j)

- 1) Record the date and time of each sterilization cycle; (§2103.12.j)
 - 2) Record whether the sterilizer has a full load of items for each sterilization cycle; (§2103.12.j)
 - 3) Record a statement from a hospital central services staff member, a hospital administrator, or a physician that it was medically necessary for each sterilization cycle that does not contain a full load of items; (§2103.12.j)
 - 4) Record the number of ethylene oxide cylinders or cartridges used on a weekly, monthly and annual basis; (§2103.12.j) and
 - 5) Record the weight of ethylene oxide in each cylinder or cartridge used. (§2103.12.j)
- b. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. (§2103.12.j)
- c. All records shall be retained on site by the facility for at least two (2) years. These records shall be made available to the Department upon request for inspection and/or copying. (§2103.12.j)
- d. All records shall be kept by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. (§2103.12.j)

5. Reporting Requirements

- a. The permittee shall report the following information to the Department semi-annually in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: (§2103.12.k)

Monthly and 12-month data required to be recorded by Condition V.H.4.a above; (§2103.12.k)

Non-compliance information required to be recorded by Condition V.H.4.b above; and (§2103.12.k)

- b. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.7 above if appropriate. (§2103.12.k)

6. Work Practice Standard

The catalytic oxidizer for the ethylene oxide sterilizers shall be properly installed, maintained, and operated consistent with manufacturer's recommendations and good engineering practices. (§2105.03)

7. Additional Requirements

None except as provided elsewhere.



**EMISSION UNIT LEVEL
TERMS AND CONDITIONS**

**Veterans Affairs Medical Center
Oakland Facility
Operating Permit #0276**

I. Fire Pump (FP-001)

Facility ID: FP-001
Manufacturer/Model: Clark Fire Protection Products; Model: JU4H-UFDW8
Max. Design Rate: 144 bhp (John Deere engine)
Fuel Use Rate: 10 gal/hr
Primary Fuel: Diesel Fuel
Control Device(s): none

1. Restrictions

- a. The operation of the emergency fire pump shall be limited to five hundred (500) hours per twelve (12) consecutive month period. (§2103.12.a.2.D)
- b. The permittee shall only combust or allow to be combusted diesel fuel that meets the following requirements: (§60.4207(b), §2103.20.b.4; §80.510(b), §2103.12.a.2.D; §2105.03)
 - 1) Sulfur content no higher than 0.0015% sulfur content by weight. (§60.4207(b), §2103.20.b.4; §80.510(b), §2103.12.a.2.D; §2105.03)
 - 2) Cetane index equal to 40 minimum or aromatic content equal to 35% volume maximum. (§60.4207(b), §2103.20.b.4; §80.510(b), §2103.12.a.2.D, §2105.03)
- c. The permittee shall operate and maintain the emergency fire pump according to the manufacturer's specifications. The manufacturer's operation and maintenance manuals shall be kept on site at all times. ((§2103.12.a.2.D, §2105.03, §60.4211(a))
- d. The permittee shall change only those emission-related settings that are permitted by the manufacturer. ((§2103.12.a.2.D, §60.4211(a))
- e. The emergency fire pump may be operated for the purpose of maintenance check and readiness testing, provided that the tests are recommended by the Federal, State County, the manufacturer, the vendor, the National Fire Protection Association (NFPA) or the insurance company associated with the engine. Maintenance checks and readiness testing is limited to 100 hours per year. ((§2103.12.a.2.D, §60.4211(e))
- f. The emergency fire pump shall not cause the exceedance of the following national ambient air quality standards for nitrogen oxides: (§2103.12.a.2.D, 40 CFR §50.11)
 - 1) The primary annual standard of 53 parts per billion (ppb); (§2103.12.a.2.D, 40 CFR §50.11)
 - 2) The primary 1-hour standard of 100 ppb; and, (§2103.12.a.2.D, 40 CFR §50.11)
 - 3) The secondary standard of 0.053 parts per million (ppm) annual arithmetic mean concentration. (§2103.12.a.2.D, 40 CFR §50.11)
- g. Emissions from the emergency fire pump shall not exceed the emissions limitations in Table V-I-1 below: (§2103.12.a.2.D, §2103.12.a.2.D; §2104.02.a.1; §60.4205(b))

TABLE V-I-1: Emergency Fire Pump Emission Limits

Pollutant	Hourly Emissions (lb/hr)	Yearly Emissions (tons/yr) ¹
PM	0.029	0.0073
PM ₁₀	0.029	0.0073
PM _{2.5}	0.029	0.0073
SO ₂	0.30	0.075
NO _x	0.89	0.22
CO	0.32	0.08
VOCs	0.032	0.008
CH ₂ O	0.0017	0.0004

¹ A year is defined as any 12 consecutive months.

2. Testing Requirements

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.12 above entitled "Emissions Testing." (§2103.12.h.1, §2108.02)

3. Monitoring Requirements

- The permittee shall install, on the emergency fire pump, a non-resettable hour meter prior to startup. (§2103.12.i, §60.4209(a))
- Compliance with the diesel fuel sulfur limitations in Condition V.I.1.b above shall be demonstrated by the certification of analysis from the fuel supplier. (§2103.12.i)

4. Record Keeping Requirements

- The permittee shall keep and maintain the following data for each emergency generator: (§2103.12.j)
 - Fuel consumption (daily, monthly, and 12-month), type of fuel consumed and supplier's certifications submitted representing all of the fuel combusted during the month; (§2103.12.j)
 - Cold starts (date, time and duration of each occurrence); (§2103.12.j)
 - Total operating hours (hours/day, monthly and 12-month) as recorded by the non-resettable hour meter(s) required under Condition V.I.3.a above; (§2103.12.j)
 - Total operating hours (hours/day, monthly and 12-month) under non-emergency conditions under Condition V.I.1.e above; (§2103.12.j)
 - Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment; (§2103.12.j)
 - Results of any testing conducted under Condition V.I.2 above; and (§2103.12.j)
 - Records of all manufacturer's emission-related written instructions, emissions certifications and emission specifications for each generator shall be retained on site. (§2103.12.j)

- b. Records of fuel supplier certifications used to demonstrate compliance with the sulfur limits of this permit shall be maintained per shipment and include the following information: (§2103.12.j)
 - 1) The name of the fuel supplier; (§2103.12.j)
 - 2) A statement from the fuel supplier that the oil complies with ASTM D975 "Standard Specification for Diesel Fuel Oils"; (§2103.12.j)
 - 3) The sulfur content of the fuel; and (§2103.12.j)
 - 4) The heating value of the fuel. (§2103.12.j)
- c. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. (§2103.12.j)
- d. All records shall be retained on site by the facility for at least two (2) years. These records shall be made available to the Department upon request for inspection and/or copying. (§2103.12.j)
- e. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. (§2103.12.j)

5. Reporting Requirements

- a. The permittee shall report the following information to the Department semi-annually in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: (§2103.12.k)
 - 1) Monthly and 12-month data required to be recorded by Condition V.I.4.a above; (§2103.12.k)
 - 2) Cold start information required to be recorded by Condition V.I.4.a.2) above; (§2103.12.k)
 - 3) Non-compliance information required to be recorded by Condition V.I.4.c above; and (§2103.12.k)
 - 4) Diesel fuel certifications and a statement from the permittee that the record of fuel supplier certifications represents all the diesel fuel used during the reporting period. (§2103.12.k)
- b. Until terminated by written notice from the Department, the requirement for the permittee to report cold starts 24 hours in advance in accordance with §2108.01.d of Article XXI is waived and the permittee may report all cold stars in accordance with Condition V.I.5.a above. (§2103.12.k)
- c. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition **Error! Reference source not found.** if appropriate. (§2103.12.k)

6. Work Practice Standard

The emergency fire pump shall be properly installed, maintained, and operated consistent with manufacturer's recommendations and good engineering practices. (§2105.03)

7. Additional Requirements

None except as provided elsewhere.



**EMISSION UNIT LEVEL
TERMS AND CONDITIONS**

**Veterans Affairs Medical Center
Oakland Facility
Operating Permit #0276**

J. Cooling Towers (CT-001, CT-002 and CT-003)

Facility ID: CT-001, CT-002 and CT-003
Manufacturer/Model: Three (3) Cooling Towers
Max. Design Rate: 1,000 gpm each
Control Device(s): None

1. Restrictions:

- a. The permittee shall properly maintain and operate the cooling towers at all times according to the following conditions: (§2103.12.a.2.B; §2105.03)
 - 1) The total dissolved solids (TDS) in the cooling tower water shall not exceed 2,500 ppm at any time. (§2103.12.a.2.B; §2105.03)
 - 2) The cooling tower shall use municipal water at all times. (§2103.12.a.2.B; §2105.03)
- b. The permittee shall determine the TDS content of the make-up water and cooling water tower water quarterly. (§2103.12.a.2.B)
- c. The cooling water towers shall each not exceed the emissions limitations in Table V-J-1 below. (§2103.12.a.2.B)

TABLE V-J-1: Emission Limitations for Each Cooling Water Tower (P-003)

Pollutant	Hourly Emission Limit (lbs/hr)	Annual Emission Limit (tons/year) ¹	Combined Annual Emission Limit (tons/year) ²
PM	0.11	0.48	1.44
PM ₁₀	0.11	0.48	1.44
PM _{2.5}	0.11	0.48	1.44

¹ A year is defined as any consecutive 12-month period.

² Combined limit for all three cooling water towers.

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.12 above entitled "Emissions Testing." (§2103.12.h.1, §2108.02)

3. Monitoring Requirements:

None except as provided elsewhere.

4. Record Keeping Requirements:

In order to determine compliance with Emission Unit Level Condition V.J.1.b above, the permittee shall record the quarterly TDS measurements. (§2103.12.a.2.B, §2103.12.j)

5. Reporting Requirements:

The permittee shall report all records from Emission Unit Level Condition V.J.4 above in the semiannual compliance report required by General Condition III.15 above. (§2103.12.k)

6. Work Practice Standards:

None except as provided elsewhere.

7. Additional Requirements

None except as provided elsewhere.

VI. MISCELLANEOUS

A. Process D001, D002 and D003: No. 2 Fuel Oil Storage Tanks

Process Description:	No. 2 Fuel Oil Underground Storage Tanks
Facility ID:	D001, D002 and D003
Capacity:	10,000 gal each
Raw Materials:	Diesel Fuel
Control Device(s):	None

1. Restrictions

- a. The permittee shall store only No. 2 fuel oil in the underground storage tanks. (§2103.12.a.2.B)
- b. The sulfur content of the No. 2 fuel oil stored in the underground storage tanks shall not exceed 0.5% sulfur by weight. (§2103.12.a.2.B)
- c. Each underground storage tank shall have a submerged fill pipe. (§2103.12.a.2.B)

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.12 above entitled "Emissions Testing." (§2103.12.h.1, §2108.02)

3. Monitoring Requirements:

The permittee shall monitor the weekly and monthly throughput of the fuel tank. (§2103.12.i.)

4. Recordkeeping Requirements:

- a. The permittee shall record the monthly throughput of the fuel tank (§2103.12.j)
- b. The permittee shall obtain and maintain on site fuel receipts and fuel supplier certifications used to demonstrate compliance with the sulfur limits of this permit shall be maintained per shipment and include the following information: (§2103.12.j)
 - 1) The name of the fuel supplier; (§2103.12.j)
 - 2) A statement from the fuel supplier that the oil complies with ASTM D376 "Standard Specification for Fuel Oils"; (§2103.12.j)
 - 3) The sulfur content of the fuel; and (§2103.12.j)
 - 4) The heating value of the fuel. (§2103.12.j)
- c. The permittee shall record episodes of non-compliance with the terms and conditions of this permit, and corrective actions taken upon occurrence. (§2103.12.j)
- d. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. (§2103.12.j.2)

5. Reporting Requirements:

- a. The permittee shall report the monthly throughput of the fuel tank on a semi-annual basis in accordance with General Condition III.15 above. (§2103.12.k)
- b. The permittee shall report all instances of non-compliance with Condition VI.B.1 below and Condition VI.B.3 below, along with all corrective action(s) taken to restore compliance, to the Department every six (6) months. (§2103.12.k)
- c. Reporting instances of non-compliance with the terms and conditions of this permit does not relieve the permittee of the requirement to report breakdowns per Site Level Condition IV.7 above. (§2103.12.k)

6. Work Practice Standard:

None except as provided elsewhere.

7. Additional Requirements:

None except as provided elsewhere

B. Process T006 and T007: Diesel Fuel Storage Tanks

Process Description:	Diesel Fuel Underground Storage Tanks
Facility ID:	T006 and T007
Capacity:	15,000 gal each
Raw Materials:	Diesel Fuel
Control Device(s):	None

1. Restrictions

- a. The permittee shall store only diesel fuel in the underground storage tanks. (§2103.12.a.2.B)
- b. The sulfur content of the diesel fuel stored in the underground storage tanks shall not exceed 0.0015% sulfur by weight. (§2103.12.a.2.B)
- c. Each underground storage tank shall have a submerged fill pipe. (§2103.12.a.2.B)

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.12 above entitled "Emissions Testing." (§2103.12.h.1, §2108.02)

3. Monitoring Requirements:

The permittee shall monitor the weekly and monthly throughput of the fuel tank. (§2103.12.i.)

4. Recordkeeping Requirements:

- e. The permittee shall record the monthly throughput of the fuel tank (§2103.12.j)
- f. The permittee shall obtain and maintain on site fuel receipts and fuel supplier certifications used to demonstrate compliance with the sulfur limits of this permit shall be maintained per shipment and include the following information: (§2103.12.j)
 - 1) The name of the fuel supplier; (§2103.12.j)
 - 2) A statement from the fuel supplier that the oil complies with ASTM D975 "Standard Specification for Diesel Fuel Oils"; (§2103.12.j)
 - 3) The sulfur content of the fuel; and (§2103.12.j)
 - 4) The heating value of the fuel. (§2103.12.j)
- g. The permittee shall record episodes of non-compliance with the terms and conditions of this permit, and corrective actions taken upon occurrence. (§2103.12.j)
- h. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. (§2103.12.j.2)

5. Reporting Requirements:

- d. The permittee shall report the monthly throughput of the fuel tank on a semi-annual basis in

accordance with General Condition III.15 above. (§2103.12.k)

- e. The permittee shall report all instances of non-compliance with Condition VI.B.1 above and Condition VI.B.3 above, along with all corrective action(s) taken to restore compliance, to the Department every six (6) months. (§2103.12.k)
- f. Reporting instances of non-compliance with the terms and conditions of this permit does not relieve the permittee of the requirement to report breakdowns per Site Level Condition IV.7 above. (§2103.12.k)

6. Work Practice Standard:

None except as provided elsewhere.

7. Additional Requirements:

None except as provided elsewhere

C. Process T008: Diesel Fuel Storage Tank

Process Description:	Diesel Fuel Underground Storage Tank
Facility ID:	T008
Capacity:	10,000 gal
Raw Materials:	Diesel Fuel
Control Device(s):	None

1. Restrictions

- a. The permittee shall store only diesel fuel in the underground storage tank. (§2103.12.a.2.B)
- b. The sulfur content of the diesel fuel stored in the underground storage tank shall not exceed 15 ppm. (§2103.12.a.2.B)
- c. The underground storage tank shall have a submerged fill pipe. (§2103.12.a.2.B)

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.12 above entitled "Emissions Testing." (§2103.12.h.1, §2108.02)

3. Monitoring Requirements:

The permittee shall monitor the weekly and monthly throughput of the fuel tank. (§2103.12.i)

4. Recordkeeping Requirements:

- a. The permittee shall record the monthly throughput of the fuel tank (§2103.12.j)
- b. The permittee shall obtain and maintain on site fuel receipts and fuel supplier certifications used to demonstrate compliance with the sulfur limits of this permit shall be maintained per shipment and include the following information: (§2103.12.j)
 - 1) The name of the fuel supplier; (§2103.12.j)
 - 2) A statement from the fuel supplier that the oil complies with ASTM D975 "Standard Specification for Diesel Fuel Oils"; (§2103.12.j)
 - 3) The sulfur content of the fuel; and (§2103.12.j)
 - 4) The heating value of the fuel. (§2103.12.j)
- c. The permittee shall record episodes of non-compliance with the terms and conditions of this permit, and corrective actions taken upon occurrence. (§2103.12.j)
- d. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. (§2103.12.j.2)

5. Reporting Requirements:

- a. The permittee shall report the monthly throughput of the fuel tank on a semi-annual basis in accordance with General Condition III.15 above. (§2103.12.k)
- b. The permittee shall report all instances of non-compliance with Condition VI.C.1 above and Condition VI.C.3 above, along with all corrective action(s) taken to restore compliance, to the Department every six (6) months. (§2103.12.k)
- c. Reporting instances of non-compliance with the terms and conditions of this permit does not relieve the permittee of the requirement to report breakdowns per Site Level Condition IV.7 above. (§2103.12.k)

6. Work Practice Standard:

None except as provided elsewhere.

7. Additional Requirements:

None except as provided elsewhere

D. Process T009: Diesel Fuel Storage Tank

Process Description:	Diesel Fuel Underground Storage Tank
Facility ID:	T009
Capacity:	4,000 gal
Raw Materials:	Diesel Fuel
Control Device(s):	None

1. Restrictions

- a. The permittee shall store only diesel fuel in the underground storage tank. (§2103.12.a.2.B)
- b. The sulfur content of the diesel fuel stored in the underground storage tank shall not exceed 15 ppm. (§2103.12.a.2.B)
- c. The underground storage tank shall have a submerged fill pipe. (§2103.12.a.2.B)

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.12 above entitled "Emissions Testing." (§2103.12.h.1, §2108.02)

3. Monitoring Requirements:

The permittee shall monitor the weekly and monthly throughput of the fuel tank. (§2103.12.i.)

4. Recordkeeping Requirements:

- a. The permittee shall record the monthly throughput of the fuel tank (§2103.12.j)
- b. The permittee shall obtain and maintain on site fuel receipts and fuel supplier certifications used to demonstrate compliance with the sulfur limits of this permit shall be maintained per shipment and include the following information: (§2103.12.j)
 - 1) The name of the fuel supplier; (§2103.12.j)
 - 2) A statement from the fuel supplier that the oil complies with ASTM D975 "Standard Specification for Diesel Fuel Oils"; (§2103.12.j)
 - 3) The sulfur content of the fuel; and (§2103.12.j)
 - 4) The heating value of the fuel. (§2103.12.j)
- c. The permittee shall record episodes of non-compliance with the terms and conditions of this permit, and corrective actions taken upon occurrence. §2103.12.j)
- d. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. (§2103.12.j.2)

5. Reporting Requirements:

- a. The permittee shall report the monthly throughput of the fuel tank on a semi-annual basis in accordance with General Condition III.15 above. (§2103.12.k)
- b. The permittee shall report all instances of non-compliance with Condition VI.D.1 above and Condition VI.D.3 above, along with all corrective action(s) taken to restore compliance, to the Department every six (6) months. (§2103.12.k)
- c. Reporting instances of non-compliance with the terms and conditions of this permit does not relieve the permittee of the requirement to report breakdowns per Site Level Condition IV.7 above. (§2103.12.k)

6. Work Practice Standard:

None except as provided elsewhere.

7. Additional Requirements:

None except as provided elsewhere

E. Process T010: Diesel Fuel Storage Tank

Process Description:	Diesel Fuel Aboveground Storage Tank
Facility ID:	T-010
Capacity:	280 gal
Raw Materials:	Diesel Fuel
Control Device(s):	None

1. Restrictions

- a. The permittee shall store only diesel fuel in the underground storage tank. (§2103.12.a.2.B)
- b. The sulfur content of the diesel fuel stored in the underground storage tank shall not exceed 15 ppm. (§2103.12.a.2.B)
- c. The underground storage tank shall have a submerged fill pipe. (§2103.12.a.2.B)

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.12 above entitled "Emissions Testing." (§2103.12.h.1, §2108.02)

3. Monitoring Requirements:

The permittee shall monitor the weekly and monthly throughput of the fuel tank. (§2103.12.i)

4. Recordkeeping Requirements:

- a. The permittee shall record the monthly throughput of the fuel tank (§2103.12.j)
- b. The permittee shall obtain and maintain on site fuel receipts and fuel supplier certifications used to demonstrate compliance with the sulfur limits of this permit shall be maintained per shipment and include the following information: (§2103.12.j)
 - 1) The name of the fuel supplier; (§2103.12.j)
 - 2) A statement from the fuel supplier that the oil complies with ASTM D975 "Standard Specification for Diesel Fuel Oils"; (§2103.12.j)
 - 3) The sulfur content of the fuel; and (§2103.12.j)
 - 4) The heating value of the fuel. (§2103.12.j)
- c. The permittee shall record episodes of non-compliance with the terms and conditions of this permit, and corrective actions taken upon occurrence. (§2103.12.j)
- d. All records shall be retained on site by the facility for at least two (2) years. These records shall be made available to the Department upon request for inspection and/or copying. (§2103.12.j)
- e. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. (§2103.12.j)

5. Reporting Requirements:

- a. The permittee shall report the monthly throughput of the fuel tank on a semi-annual basis in accordance with General Condition III.15 above. (§2103.12.k)
- b. The permittee shall report all instances of non-compliance with Condition VI.E.1 above and Condition VI.E.3 above, along with all corrective action(s) taken to restore compliance, to the Department every six (6) months. (§2103.12.k)
- c. Reporting instances of non-compliance with the terms and conditions of this permit does not relieve the permittee of the requirement to report breakdowns per Site Level Condition IV.7 above. (§2103.12.k)

6. Work Practice Standard:

None except as provided elsewhere.

7. Additional Requirements:

None except as provided elsewhere.

VII. ALTERNATIVE OPERATING SCENARIOS

A. Emergency Generators (EG-009, EG-010, EG-011 and E-G012)

Facility ID: EG009, EG010, EG011 and EG012
Manufacturer/Model: Caterpillar 3512C
Max. Design Rate: 1,500 kW (2,206 hp)
BTU Rating: 104.8 gal/hr
Primary Fuel: No. 2 Fuel Oil
Control Device(s): none

1. Restrictions

- a. The operation of each emergency generator shall be limited to four hundred (400) hours per twelve (12) consecutive month period during those times when power supplied by a public utility is unavailable. (§2103.12.a.2.D)
- b. The permittee shall only combust or allow to be combusted a mixture of fuel oil and natural gas that meets the following requirements: (§60.4207(b), §2103.20.b.4; §80.510(b), §2103.12.a.2.D, §2105.03)
 - 1) The sulfur content of the fuel oil shall be no higher than 0.5% sulfur content by weight ; (§60.4207(b), §80.510(b), §2103.12.a.2.D, §2105.03)
 - 2) The cetane index of the fuel oil shall be at least 40 minimum or the aromatic content equal to 35% volume maximum. (§60.4207(b), §2103.12.a.2.D, §80.510(b), §2105.03)
 - 3) The natural gas shall be of pipeline quality. (§2103.12.a.2.D, §2105.03)
- c. The permittee shall not cause or allow the mixture of fuel oil and natural gas to exceed 40% natural gas. (§2103.12.a.2.D, §2105.03)
- d. The permittee shall operate and maintain the emergency generators according to the manufacturer's specifications. The manufacturer's operation and maintenance manuals shall be kept on site at all times. ((§2103.12.a.2.D, §2105.03, §60.4211(a))
- e. The permittee shall change only those emission-related settings that are permitted by the manufacturer. ((§2103.12.a.2.D, §60.4211(a))
- f. The emergency generators may be operated for the purpose of maintenance check and readiness testing, provided that the tests are recommended by the Federal, State, County, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing is limited to 100 hours per year. ((§2103.12.a.2.D, §60.4211(e))
- g. The permittee may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. ((§2103.12.a.2.D, §60.4211(e))

- h. The emergency generators shall not cause the exceedance of the following national ambient air quality standards for nitrogen oxides: (§2103.12.a.2.D, 40 CFR §50.11)
- 1) The primary annual standard of 53 parts per billion (ppb); (§2103.12.a.2.D, 40 CFR §50.11)
 - 2) The primary 1-hour standard of 100 ppb; and, (§2103.12.a.2.D, 40 CFR §50.11)
 - 3) The secondary standard of 0.053 parts per million (ppm) annual arithmetic mean concentration. (§2103.12.a.2.D, 40 CFR §50.11)
- i. Emissions from the Emergency Generators (EG-009, EG-010, EG-011 and EG-012) shall not exceed the emissions limitations in Table VII-A-1 below when using a fuel mixture of 60% fuel oil and 40% natural gas: (§2103.12.a.2.D; §2104.02.a.1; §60.4205(b))

TABLE VII-A-1: Emergency Generator Emission Limits

Pollutant	Hourly Emissions: Single Generator (lb/hr)	Hourly Emissions: Combined Generators (lb/hr)	Yearly Emissions: Combined Generators (tons/yr)¹
PM	0.06	0.24	0.05
PM ₁₀	0.06	0.24	0.05
PM _{2.5}	0.06	0.24	0.05
SO ₂	4.52	18.08	3.62
NO _x	17.84	71.36	14.27
CO	0.05	0.20	0.04
VOCs	0.44	1.76	0.35
CH ₂ O	0.017	0.068	0.0136

¹ A year is defined as any 12 consecutive months.

2. Testing Requirements

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.12 above entitled "Emissions Testing." (§2103.12.h.1, §2108.02)

3. Monitoring Requirements

- a. The permittee shall install, on the emergency generators, a non-resettable hour meter prior to startup. (§2103.12.i, §60.4209(a))
- b. Compliance with the fuel oil sulfur limitations in Condition VII.A.1.b above shall be demonstrated by the certification of analysis from the fuel supplier. (§2103.12.i)

4. Record Keeping Requirements

- a. The permittee shall keep and maintain the following data for each emergency generator: (§2103.12.j)

- 1) Fuel consumption (daily, monthly, and 12-month), type of fuel consumed and supplier's certifications submitted representing all of the fuel combusted during the month; (§2103.12.j)
 - 2) Cold starts (date, time and duration of each occurrence); (§2103.12.j)
 - 3) Total operating hours (hours/day, monthly and 12-month) as recorded by the non-resettable hour meter(s) required under Condition VII.A.3.a above; (§2103.12.j)
 - 4) Total operating hours (hours/day, monthly and 12-month) under non-emergency conditions under Condition VII.A.1.f above; (§2103.12.j)
 - 5) Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment; (§2103.12.j)
 - 6) Results of any testing conducted under Condition VII.A.2 above; and (§2103.12.j)
 - 7) Records of all manufacturer's emission-related written instructions, emissions certifications and emission specifications for each generator shall be retained on site. (§2103.12.j)
- b. Records of fuel supplier certifications used to demonstrate compliance with the sulfur limits of this permit shall be maintained per shipment and include the following information: (§2103.12.j)
- 1) The name of the fuel supplier; (§2103.12.j)
 - 2) A statement from the fuel supplier that the fuel complies with ASTM D975 "Standard Specification for Diesel Fuel Oils"; (§2103.12.j)
 - 3) The sulfur content of the fuel; and (§2103.12.j)
 - 4) The heating value of the fuel. (§2103.12.j)
- c. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. (§2103.12.j)
- d. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. (§2103.12.j)

5. Reporting Requirements

- a. The permittee shall report the following information to the Department semi-annually in accordance with General Condition III.15. The reports shall contain all required information for the time period of the report: (§2103.12.k)
- 1) Monthly and 12-month data required to be recorded by Condition VII.A.4.a above; (§2103.12.k)
 - 2) Cold start information required to be recorded by Condition VII.A.4.a.2) above; (§2103.12.k)
 - 3) Non-compliance information required to be recorded by Condition VII.A.4.c above; and (§2103.12.k)
 - 4) Fuel oil certifications and a statement from the permittee that the record of fuel supplier certifications represents all the fuel oil used during the reporting period. (§2103.12.k)
- b. Until terminated by written notice from the Department, the requirement for the permittee to report cold starts 24 hours in advance in accordance with §2108.01.d of Article XXI is waived and the permittee may report all cold stars in accordance with Condition VII.A.5.a above. (§2103.12.k)

- c. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition **Error! Reference source not found.** if appropriate. (§2103.12.k)

6. Work Practice Standard

The emergency generator(s) shall be properly installed, maintained, and operated consistent with manufacturer's recommendations and good engineering practices. (§2105.03)

7. Additional Requirements

None except as provided elsewhere.

VIII. EMISSIONS LIMITATIONS SUMMARY

The annual emission limitations for the Veterans Affairs Medical Center – Oakland Facility are summarized in the following table:

TABLE VII-1 - Emission Limitations Summary

Pollutant	Annual Emission Limit (tons/year)*
PM	4.95
PM ₁₀	4.95
PM _{2.5}	4.95
SO ₂	19.056
NO _x	85.437
CO	34.167
ETO	0.0021
CH ₂ O	0.086
VOCs	3.014

* A year is defined as any consecutive 12-month period.

**ALLEGHENY COUNTY HEALTH DEPARTMENT
Air Quality Program**

**SUMMARY OF PUBLIC COMMENTS AND DEPARTMENT RESPONSES
ON THE PROPOSED ISSUANCE OF VETERANS AFFAIRS MEDICAL
CENTER – OAKLAND FACILITY SYNTHETIC MINOR SOURCE OPERATING
PERMIT NO. 0276**

*[Notice of the opportunity for public comment appeared in the legal section of the
Pittsburgh Post Gazette on July 25, 2014 The public comment
period ended on August 25, 2014.]*

COMMENT/RESPONSE: The Department received comments from one (1) commenter. Those comments and the Department's responses follow.

1. **COMMENT:** EG 11 and EG 12 have separate stacks.

RESPONSE: Corrections have been made to the permit .

2. **COMMENT:** EG 13 and EG 14 have separate stacks.

RESPONSE: Corrections have been made to the permit.

The Department has noted that the "Responsible Official" has changed since the submission of the permit application. That correction has been applied to the permit.

LIST OF COMMENTERS

	Name	Affiliation
1	James M. Rowlett	VA Pittsburgh Healthcare System

Michael Dorman
Air Quality Engineer
August 26, 2014